

FIG. 1A

SEQ ID NO: 1

PCMVII

→ 1 TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGCTCCCG
AGCGCGCAAA GCCACTACTG CCACTTTTGG AGACTGTGTA CGTCGAGGGC

51 GAGACGGTCA CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA GACAAGCCCCG
CTCTGCCAGT GTCGAACAGA CATTGCGCTA CGGCCCTCGT CTGTTCTGGGC

101 TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG
AGTCCCAGCG AGTCGCCCAC AACCGCCCAC AGCCCCGACC GAATTGATAC

HindIII

151 CGGCATCAGA GCAGATTGTA CTGAGAGTGC ACCATATGAA GCTTTTTTGCA
GCCGTAGTCT CGTCTAACAT GACTCTCACG TGGTATACTT CGAAAAACGT

201 AAAGCCTAGG CCTCCAAAAA AGCCTCCTCA CTAATTCTGG AATAGCTCAG
TTTCGGATCC GGAGGTTTTT TCGGAGGAGT GATGAAGACC TTATCGAGTC

251 AGGCCGAGGC GGCCTCGGCC TCTGCATAAA TAAAAAAAAT TAGTCAGCCA
TCCGGCTCCG CCGGAGCCGG AGACGTATTT ATTTTTTTTAA ATCAGTCGGT

301 TGGGGCGGAG AATGGGCGGA ACTGGGCGGG GAGGGAATTA TTGGCTATTG
ACCCCGCCTC TTACCCGCCT TGACCCGCCC CTCCTTAAAT AACCGATAAC

351 GCCATTGCAT ACGTTGTATC TATATCATAA TATGTACATT TATATTGGCT
CGGTAACGTA TGCAACATAG ATATAGTATT ATACATGTAA ATATAACCGA

401 CATGTCCAAT ATGACCGCCA TGTGACATT GATTATTGAC TAGTTATTAA
GTACAGGTTA TACTGGCGGT ACAACTGTAA CTAATAACTG ATCAATAATT

451 TAGTAATCAA TTACGGGGTC ATTAGTTCAT AGCCCATATA TGGAGTTCCG
ATCATTAGTT AATGCCCCAG TAATCAAGTA TCGGGTATAT ACCTCAAGGC

501 CGTTACATAA CTTACGGTAA ATGGCCCCGCC TGGCTGACCG CCCAACGACC
GCAATGTATT GAATGCCATT TACCGGGCGG ACCGACTGGC GGGTTGCTGG

551 CCCGCCCATT GACGTCAATA ATGACGTATG TTCCCATAGT AACGCCAATA
GGGCGGGTAA CTGCAGTTAT TACTGCATAC AAGGGTATCA TTGCGGTTAT

601 GGGACTTTCC ATTGACGTCA ATGGGTGGAG TATTTACGGT AAAGTCCCCA
CCCTGAAAGG TAACTGCAGT TACCCACCTC ATAAATGCCA TTTGACGGGT

651 CTTGGCAGTA CATCAAGTGT ATCATATGCC AAGTCCGCCC CCTATTGACG
GAACCGTCAT GTAGTTCACA TAGTATACGG TTCAGGCGGG GGATAACTGC

701 TCAATGACGG TAAATGGCCC GCCTGGCATT ATGCCAGTA CATGACCTTA
AGTTACTGCC ATTTACCGGG CGGACCGTAA TACGGGTCAT GTACTGGAAT

751 CGGGACTTTC CTACTTGGCA GTACATCTAC GTATTAGTCA TCGCTATTAC
GCCCTGAAAG GATGAACCGT CATGTAGATG CATAATCAGT AGCGATAATG

801 CATGGTGATG CGGTTTTGGC AGTACACCAA TGGGCGTGGA TAGCGGTTTG
GTACCACTAC GCCAAAACCG TCATGTGGTT ACCCGCACCT ATCGCCAAAC

851 ACTCACGGGG ATTTCCAAGT CTCCACCCCA TTGACGTCAA TGGGAGTTTG
TGAGTGCCCC TAAAGGTTCA GAGGTGGGGT AACTGCAGTT ACCCTCAAAC

FIG. 1B

901 TTTTGGCACC AAAATCAACG GGAAGTTTCCA AAATGTCGTA ATAACCCCGC
AAAACCGTGG TTTTAGTTGC CCTGAAAGGT TTTACAGCAT TATTGGGGCG

951 CCCGTTGACG CAAATGGGCG GTAGGCGTGT ACGGTGGGAG GTCTATATAA
GGGCAACTGC GTTACCCGC CATCCGCACA TGCCACCCTC CAGATATATT

1001 GCAGAGCTCG TTTAGTGAAC CGTCAGATCG CCTGGAGACG CCATCCACGC
CGTCTCGAGC AAATCACTTG GCAGTCTAGC GGACCTCTGC GGTAGGTGCG

1051 TGTTTTGACC TCCATAGAAG ACACCGGGAC CGATCCAGCC TCCGCGGCCG
ACAAAAGTGG AGGTATCTTC TGTGGCCCTG GCTAGGTGCG AGGCGCCGCG

1101 GGAACGGTGC ATTGGAACGC GGATTCCCCG TGCCAAGAGT GACGTAAGTA
CCTTGCCACG TAACCTTGCG CTAAGGGGC ACGGTTCTCA CTGCATTCTAT

1151 CCGCCTATAG ACTCTATAGG CACACCCCTT TGGCTCTTAT GCATGCTATA
GGCGGATATC TGAGATATCC GTGTGGGGAA ACCGAGAATA CGTACGATAT

1201 CTGTTTTTGG CTGCGGGCCT ATACACCCCG GCTCCTTATG CTATAGGTGA
GACAAAAACC GAACCCCGGA TATGTGGGGG CGAGGAATAC GATATCCACT

1251 TGGTATAGCT TAGCCTATAG GTGTGGGTTA TTGACCATTG TTGACCACTC
ACCATATCGA ATCGGATATC CACACCCAAT AACTGGTAAT AACTGGTGAG

1301 CCCTATTGGT GACGATACTT TCCATTACTA ATCCATAACA TGGCTCTTTG
GGGATAACCA CTGCTATGAA AGGTAATGAT TAGGTATTGT ACCGAGAAAC

1351 CCACAACTAT CTCTATTGGC TATATGCCAA TACTCTGTCC TTCAGAGACT
GGTGTGATA GAGATAACCG ATATACGGTT ATGAGACAGG AAGTCTCTGA

1401 GACACGGACT CTGTATTTT ACAGGATGGG GTCCATTTAT TATTTACAAA
CTGTGCCTGA GACATAAAAA TGTCTTACCC CAGGTAAATA ATAAATGTTT

1451 TTCACATATA CAACAACGCC GTCCCCCGTG CCCGCAGTTT TTATTAAACA
AAGTGTATAT GTTGTGCGG CAGGGGGCAC GGGCGTCAA AATAATTTGT

1501 TAGCGTGGGA TCTCCGACAT CTCGGGTACG TGTTCGGAC ATGGGCTCTT
ATCGCACCTT AGAGGCTGTA GAGCCCATGC ACAAGGCCTG TACCCGAGAA

1551 CTCCGGTAGC GGCGGAGCTT CCACATCCGA GCCCTGGTCC CATCCGTCCA
GAGGCCATCG CCGCCTCGAA GGTGTAGGCT CGGACCAGG GTAGGCAGGT

1601 GCGGCTCATG GTCGCTCGGC AGCTCCTTGC TCCTAACAGT GGAGGCCAGA
CGCCGAGTAC CAGCGAGCCG TCGAGGAACG AGGATTGTCA CCTCCGGTCT

1651 CTTAGGCACA GCACAATGCC CACCACCACC AGTGTGCCGC ACAAGGCCGT
GAATCCGTGT CGTGTACGG GTGGTGGTGG TCACACGGCG TGTCCGGCA

1701 GGCGGTAGGG TATGTGTCTG AAAATGAGCT CGGAGATTGG GCTCGCACCT
CCGCCATCCC ATACACAGAC TTTTACTCGA GCCTCTAACC CGAGCGTGGA

1751 GGACGCAGAT GGAAGACTTA AGGCAGCGGC AGAAGAAGAT GCAGGCAGCT
CCTGCGTCTA CCTTCTGAAT TCCGTCGCCG TCTTCTTCTA CGTCCGTCTA

1801 GAGTTGTTGT ATTCTGATAA GAGTCAGAGG TAACTCCCGT TGCGGTGCTG
CTCAACAACA TAAGACTATT CTCAGTCTCC ATTGAGGGCA ACGCCACGAC

FIG. 1C

1851	TTAACGGTGG	AGGGCAGTGT	AGTCTGAGCA	GTACTCGTTG	CTGCCGCGCG
	AATTGCCACC	TCCCGTCACA	TCAGACTCGT	CATGAGCAAC	GACGGCGCGC
1901	CGCCACCAGA	CATAATAGCT	GACAGACTAA	CAGACTGTTC	CTTTCCATGG
	GCGGTGGTCT	GTATTATCGA	CTGTCTGATT	GTCTGACAAG	GAAAGGTACC
			SalI	EcoRI	XhoI
			-----	-----	-----
1951	GTCTTTTCTG	CAGTCACCGT	CGTCGACCTA	AGAATTCAGA	CTCGAGCAAG
	CAGAAAAGAC	GTCAGTGGCA	GCAGCTGGAT	TCTTAAGTCT	GAGCTCGTTC
	XbaI	AscI	EcoRV	BamHI	MluI
	-----	-----	-----	-----	-----
2001	TCTAGAAAGG	CGCGCCAAGA	TATCAAGGAT	CCACTACGCG	TTAGAGCTCG
	AGATCTTTCC	GCGCGGTTCT	ATAGTTCCTA	GGTGATGCGC	AATCTCGAGC
2051	CTGATCAGCC	TCGACTGTGC	CTTCTAGTTG	CCAGCCATCT	GTGTTTGCC
	GACTAGTCGG	AGCTGACACG	GAAGATCAAC	GGTCGGTAGA	CAACAAACGG
2101	CCTCCCCCGT	GCCTTCCTTG	ACCCTGGAAG	GTGCCACTCC	CACTGTCCTT
	GGAGGGGGCA	CGGAAGGAAC	TGGGACCTTC	CACGGTGAGG	GTGACAGGAA
2151	TCCTAATAAA	ATGAGGAAAT	TGCATCGCAT	TGTCTGAGTA	GGTGTCATTC
	AGGATTATTT	TACTCCTTTA	ACGTAGCGTA	ACAGACTCAT	CCACAGTAAG
2201	TATTCTGGGG	GGTGGGGTGG	GGCAGGACAG	CAAGGGGGAG	GATTGGGAAG
	ATAAGACCCC	CCACCCACC	CCGTCCTGTC	GTTCCCCCTC	CTAACCCCTC
2251	ACAATAGCAG	GCATGCTGGG	GAGCTCTTCC	GCTTCCTCGC	TCAGTGACTC
	TGTTATCGTC	CGTACGACCC	CTCGAGAAGG	CGAAGGAGCG	AGTGACTGAG
2301	GCTGCGCTCG	GTCGTTCGGC	TGCGGCGAGC	GGTATCAGCT	CACTCAAAGG
	CGACGCGAGC	CAGCAAGCCG	ACGCCGCTCG	CCATAGTCGA	GTGAGTTTCC
2351	CGGTAATACG	GTTATCCACA	GAATCAGGGG	ATAACGCAGG	AAAGAACATG
	GCCATTATGC	CAATAGGTGT	CTTAGTCCCC	TATTGCGTCC	TTTCTTGTA
2401	TGAGCAAAAAG	GCCAGCAAAA	GGCCAGGAAC	CGTAAAAAGG	CCGCGTTGCT
	ACTCGTTTTT	CGGTCGTTTT	CCGGTCCTTG	GCATTTTTTC	GGCGCAACGA
2451	GGCGTTTTTC	CATAGGCTCC	GCCCCCTGA	CGAGCATCAC	AAAAATCGAC
	CCGCAAAAAG	GTATCCGAGG	CGGGGGGACT	GCTCGTAGTG	TTTTTAGCTG
2501	GCTCAAGTCA	GAGGTGGCGA	AACCCGACAG	GACTATAAAG	ATACCAGGCG
	CGAGTTCAGT	CTCCACCGCT	TTGGGCTGTC	CTGATATTTT	TATGGTCCGC
2551	TTTCCCCCTG	GAAGCTCCCT	CGTGCGCTCT	CCTGTTCCGA	CCCTGCCGCT
	AAAGGGGGAC	CTTCGAGGGA	GCACGCGAGA	GGACAAGGCT	GGGACGGCGA
2601	TACCGGATAC	CTGTCCGCCT	TTCTCCCTTC	GGGAAGCGTG	GCGCTTTCTC
	ATGGCCTATG	GACAGGCGGA	AAGAGGGAAG	CCCTTCGCAC	CGCGAAAGAG
2651	AATGCTCACG	CTGTAGGTAT	CTCAGTTCGG	TGTAGGTCGT	TCGCTCCAAG
	TTACGAGTGC	GACATCCATA	GAGTCAAGCC	ACATCCAGCA	AGCGAGGTTT
2701	CTGGGCTGTG	TGCACGAACC	CCCCGTTTCA	CCCGACCGCT	GCGCCTTATC
	GACCCGACAC	ACGTGCTTGG	GGGGCAAGTC	GGGCTGGCGA	CGCGGAATAG

FIG. 1D

2751 CGGTAAGTAT CGTCTTGAGT CCAACCCGGT AAGACACGAC TTATCGCCAC
GCCATTGATA GCAGAACTCA GGTTGGGCCA TTCTGTGCTG AATAGCGGTG

2801 TGGCAGCAGC CACTGGTAAC AGGATTAGCA GAGCGAGGTA TGTAGGCGGT
ACCGTCGTCG GTGACCATTG TCCTAATCGT CTCGCTCCAT ACATCCGCCA

2851 GCTACAGAGT TCTTGAAGTG GTGGCCTAAC TACGGCTACA CTAGAAGGAC
CGATGTCTCA AGAACTTCAC CACCGGATTG ATGCCGATGT GATCTTCCTG

2901 AGTATTTGGT ATCTGCGCTC TGCTGAAGCC AGTTACCTTC GGAAAAAGAG
TCATAAACCA TAGACGCGAG ACGACTTCGG TCAATGGAAG CCTTTTCTC

2951 TTGGTAGCTC TTGATCCGGC AAACAAACCA CCGCTGGTAG CGGTGGTTT
AACCATCGAG AACTAGGCCG TTTGTTTGGT GGCGACCATC GCCACCAAAA

3001 TTTGTTTGCA AGCAGCAGAT TACGCGCAGA AAAAAAGGAT CTCAAGAAGA
AAACAAACGT TCGTCGTCTA ATGCGCGTCT TTTTTCCTA GAGTTCTTCT

3051 TCCTTTGATC TTTTCTACGG GGTCTGACGC TCAGTGGAAC GAAACTCAC
AGGAAACTAG AAAAGATGCC CCAGACTGCG AGTCACCTTG CTTTGTAGTG

3101 GTTAAGGGAT TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC
CAATTCCCTA AAACCAGTAC TCTAATAGTT TTTCTAGAA GTGGATCTAG

3151 CTTTTAAATT AAAAATGAAG TTTTAAATCA ATCTAAAGTA TATATGAGTA
GAAAATTTAA TTTTACTTC AAAATTTAGT TAGATTTTCT ATATACTCAT

3201 AACTTGGTCT GACAGTTACC AATGCTTAAT CAGTGAGGCA CCTATCTCAG
TTGAACCAGA CTGTCAATGG TTACGAATTA GTCACCTCGT GGATAGAGTC

3251 CGATCTGTCT ATTTTCGTTCA TCCATAGTTG CCTGACTCCC CGTCGTGTAG
GCTAGACAGA TAAAGCAAGT AGGTATCAAC GGAAGTGGG GCAGCACATC

3301 ATAACACGA TACGGGAGGG CTTACCATCT GGCCCCAGTG CTGCAATGAT
TATTGATGCT ATGCCCTCCC GAATGGTAGA CCGGGGTCAC GACGTTACTA

3351 ACCGCGAGAC CCACGCTCAC CGGCTCCAGA TTTATCAGCA ATAAACCAGC
TGGCGCTCTG GGTGCGAGTG GCCGAGGTCT AAATAGTCGT TATTGGTCTG

3401 CAGCCGGAAG GGCCGAGCGC AGAAGTGGTC CTGCAACTTT ATCCGCCTCC
GTCGGCCTTC CCGGCTCGCG TCTTCACCAG GACGTTGAAA TAGGCGGAGG

3451 ATCCAGTCTA TTAATTGTTG CCGGGAAGCT AGAGTAAGTA GTTCGCCAGT
TAGGTCAGAT AATTAAACAAC GGCCCTTCGA TCTCATTCTA CAAGCGGTCA

3501 TAATAGTTTG CGCAACGTG TTGCCATTGC TACAGGCATC GTGGTGTAC
ATTATCAAAC GCGTTGCAAC AACGGTAACG ATGTCCGTAG CACCACAGTG

3551 GCTCGTCGTT TGGTATGGCT TCATTACGCT CCGGTTCCCA ACGATCAAGG
CGAGCAGCAA ACCATACCGA AGTAAGTCGA GGCCAAGGGT TGCTAGTTCC

3601 CGAGTTACAT GATCCCCCAT GTTGTGCAAA AAAGCGGTTA GTCCTTCCG
GCTCAATGTA CTAGGGGGTA CAACACGTTT TTTCCCAAT CGAGGAAGCC

3651 TCCTCCGATC GTTGTGAGAA GTAAGTTGGC CGCAGTGTTA TCACTCATGG
AGGAGGCTAG CAACAGTCTT CATTCAACCG GCGTCACAAT AGTGAGTACC

FIG. 1E

3701 TTATGGCAGC ACTGCATAAT TCTCTTACTG TCATGCCATC CGTAAGATGC
AATACCGTCG TGACGTATTA AGAGAATGAC AGTACGGTAG GCATTCTACG

3751 TTTTCTGTGA CTGGTGAGTA CTCAACCAAG TCATTCTGAG AATAGTGTAT
AAAAGACACT GACCACTCAT GAGTTGGTTC AGTAAGACTC TTATCACATA

3801 GCGGCGACCG AGTTGCTCTT GCCCGGCGTC AATACGGGAT AATACCGCGC
CGCCGCTGGC TCAACGAGAA CGGGCCGAG TTATGCCCTA TTATGGCGCG

3851 CACATAGCAG AACTTTAAAA GTGCTCATCA TTGGAAAACG TTCTTCGGGG
GTGTATCGTC TTGAAATTTT CACGAGTAGT AACCTTTTGC AAGAAGCCCC

3901 CGAAAACTCT CAAGGATCTT ACCGCTGTTG AGATCCAGTT CGATGTAACC
GCTTTTGAGA GTTCCTAGAA TGGCGACAAC TCTAGGTCAA GCTACATTGG

3951 CACTCGTGCA CCCAACTGAT CTTCAGCATC TTTTACTTTC ACCAGCGTTT
GTGAGCACGT GGGTTGACTA GAAGTCGTAG AAAATGAAAG TGGTCGCAAA

4001 CTGGGTGAGC AAAACAGGA AGGCAAAATG CCGCAAAAAA GGAATAAGG
GACCCACTCG TTTTGTCTT TCCGTTTTAC GCGTTTTTTT CCCTTATTCC

4051 GCGACACGGA AATGTTGAAT ACTCATACTC TTCCTTTTTT AATATTATTG
CGCTGTGCCT TTACAACTTA TGAGTATGAG AAGGAAAAAG TTATAATAAC

4101 AAGCATTIAT CAGGGTTATT GTCTCATGAG CGGATACATA TTTGAATGTA
TTCGTAAATA GTCCCAATAA CAGAGTACTC GCCTATGTAT AAACCTACAT

4151 TTTAGAAAAA TAAACAAATA GGGGTTCCGC GCACATTTCC CCGAAAAGTG
AAATCTTTTT ATTTGTTTAT CCCCAGGCG CGTGTAAGG GGCTTTTCAC

4201 CCACCTGACG TCTAAGAAAC CATTATTATC ATGACATTAA CCTATAAAAA
GGTGGACTGC AGATTCTTTG GTAATAATAG TACTGTAATT GGATATTTTT

4251 TAGGCGTATC ACGAGGCCCT TTCGTC
ATCCGCATAG TGCTCCGGA AAGCAG

FIG. 1F

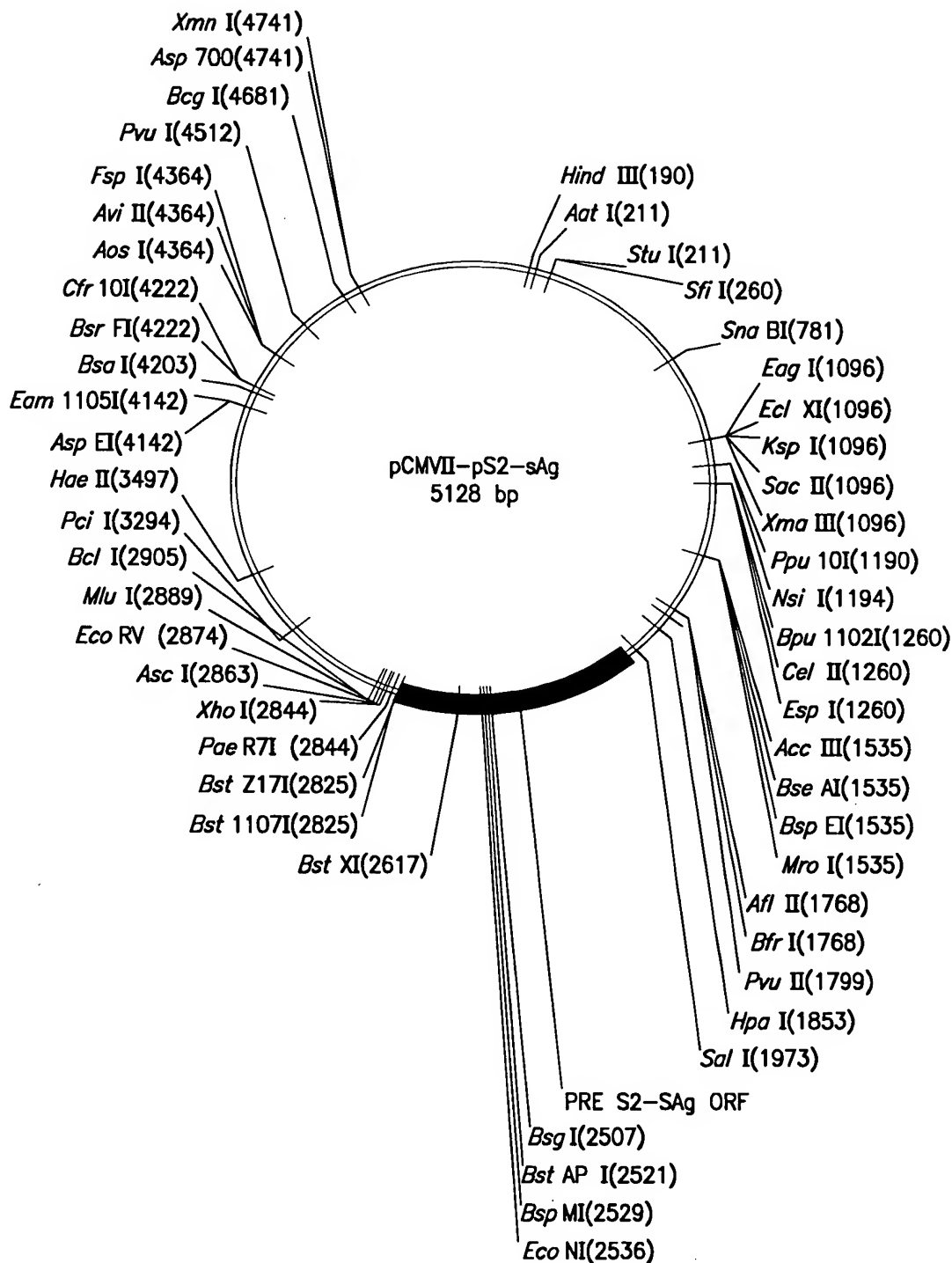


FIG. 2A

SEQ ID NO: 2

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→ 1  TCGCGCGTTT  CGGTGATGAC  GGTGAAAACC  TCTGACACAT  GCAGCTCCCG
      AGCGCGCAAA  GCCACTACTG  CCACTTTTGG  AGACTGTGTA  CGTCGAGGGC

      51  GAGACGGTCA  CAGCTTGTCT  GTAAGCGGAT  GCCGGGAGCA  GACAAGCCCG
          CTCTGCCAGT  GTCGAACAGA  CATTCGCCTA  CGGCCCTCGT  CTGTTTCGGC

      101  TCAGGGCGCG  TCAGCGGGTG  TTGGCGGGTG  TCGGGGCTGG  CTTAACTATG
          AGTCCCGCGC  AGTCGCCCAC  AACCGCCAC  AGCCCCGACC  GAATTGATAC

                                                    HindIII
                                                    -----
      151  CGGCATCAGA  GCAGATTGTA  CTGAGAGTGC  ACCATATGAA  GCTTTTTGCA
          GCCGTAGTCT  CGTCTAACAT  GACTCTCACG  TGGTATACTT  CGAAAAACGT

              StuI
              -----
              AatI
              -----
      201  AAAGCCTAGG  CCTCCAAAAA  AGCCTCCTCA  CTA CTCTCTGG  AATAGCTCAG
          TTTTCGGATCC  GGAGGTTTTT  TCGGAGGAGT  GATGAAGACC  TTATCGAGTC

              SfiI
              -----
      251  AGGCCGAGGC  GGCCTCGGCC  TCTGCATAAA  TAAAAAAAAT  TAGTCAGCCA
          TCCGGCTCCG  CCGGAGCCGG  AGACGTATTT  ATTTTTTTTA  ATCAGTCGGT

      301  TGGGGCGGAG  AATGGGCGGA  ACTGGGCGGG  GAGGGAATTA  TTGGCTATTG
          ACCCCGCCTC  TTACCCGCCT  TGACCCGCCC  CTCCCTTAAT  AACCGATAAC

      351  GCCATTGCAT  ACGTTGTATC  TATATCATAA  TATGTACATT  TATATTGGCT
          CGGTAACGTA  TGCAACATAG  ATATAGTATT  ATACATGTAA  ATATAACCGA

      401  CATGTCCAAT  ATGACCGCCA  TGTTGACATT  GATTATTGAC  TAGTTATTAA
          GTACAGGTTA  TACTGGCGGT  ACAACTGTAA  CTAATAACTG  ATCAATAATT

      451  TAGTAATCAA  TTACGGGGTC  ATTAGTTCAT  AGCCCATATA  TGGAGTTCGG
          ATCATTAGTT  AATGCCCCAG  TAATCAAGTA  TCGGGTATAT  ACCTCAAGGC

      501  CGTTACATAA  CTTACGGTAA  ATGGCCCGCC  TGGCTGACCG  CCCAACGACC
          GCAATGTATT  GAATGCCATT  TACCGGGCGG  ACCGACTGGC  GGGTTGCTGG

      551  CCCGCCCAT  GACGTCAATA  ATGACGTATG  TTCCCATAGT  AACGCCAATA
          GGGCGGGTAA  CTGCAGTTAT  TACTGCATAC  AAGGGTATCA  TTGCGGTTAT

      601  GGGACTTTCC  ATTGACGTCA  ATGGGTGGAG  TATTTACGGT  AAAGTGCCCA
          CCCTGAAAGG  TAACTGCAGT  TACCCACCTC  ATAAATGCCA  TTTGACGGGT

      651  CTTGGCAGTA  CATCAAGTGT  ATCATATGCC  AAGTCCGCCC  CCTATTGACG
          GAACCGTCAT  GTAGTTCACA  TAGTATACGG  TTCAGGCGGG  GGATAACTGC

      701  TCAATGACGG  TAAATGGCCC  GCCTGGCATT  ATGCCCAGTA  CATGACCTTA
          AGTTACTGCC  ATTTACCGGG  CGGACCGTAA  TACGGGTCAT  GTACTGGAAT

                                                    SnaBI
                                                    -----
      751  CGGGACTTTC  CTA CTCTGGCA  GTACATCTAC  GTATTAGTCA  TCGCTATTAC
          GCCCTGAAAG  GATGAACCGT  CATGTAGATG  CATAATCAGT  AGCGATAATG

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FIG. 2B

801	CATGGTGATG	CGGTTTTGGC	AGTACACCAA	TGGGCGTGGA	TAGCGGTTTG
	GTACCACTAC	GCCAAAACCG	TCATGTGGTT	ACCCGCACCT	ATCGCCAAAC
851	ACTCACGGGG	ATTTCCAAGT	CTCCACCCCA	TTGACGTCAA	TGGGAGTTTG
	TGAGTGCCCC	TAAAGGTTCA	GAGGTGGGGT	AACTGCAGTT	ACCCTCAAAC
901	TTTTGGCACC	AAAATCAACG	GGACTTTCCA	AAATGTCGTA	ATAACCCCGC
	AAAACCGTGG	TTTTAGTTGC	CCTGAAAGGT	TTTACAGCAT	TATTGGGGCG
951	CCCGTTGACG	CAAATGGGCG	GTAGGCGTGT	ACGGTGGGAG	GTCTATATAA
	GGGCAACTGC	GTTTACCCGC	CATCCGCACA	TGCCACCCTC	CAGATATATT
1001	GCAGAGCTCG	TTTAGTGAAC	CGTCAGATCG	CCTGGAGACG	CCATCCACGC
	CGTCTCGAGC	AAATCACTTG	GCAGTCTAGC	GGACCTCTGC	GGTAGGTGCG
				XmaIII	

				SacII	

				KspI	

				EclXI	

				EagI	

1051	TGTTTTGACC	TCCATAGAAG	ACACCGGGAC	CGATCCAGCC	TCCGCGGCCG
	ACAAAACCTGG	AGGTATCTTC	TGTGGCCCTG	GCTAGGTCGG	AGGCGCCGGC
1101	GGAACGGTGC	ATTGGAACGC	GGATTCCCCG	TGCCAAGAGT	GACGTAAGTA
	CCTTGCCACG	TAACCTTGCG	CCTAAGGGGC	ACGGTTCTCA	CTGCATTTCAT
				Pp10I	

				NsiI	

1151	CCGCCTATAG	ACTCTATAGG	CACACCCCTT	TGGCTCTTAT	GCATGCTATA
	GGCGGATATC	TGAGATATCC	GTGTGGGGAA	ACCGAGAATA	CGTACGATAT
1201	CTGTTTTTGG	CTTGGGGCCT	ATACACCCCC	GCTCCTTATG	CTATAGGTGA
	GACAAAAACC	GAACCCCGGA	TATGTGGGGG	CGAGGAATAC	GATATCCACT
				EspI	

				CelII	

				Bpu1102I	

1251	TGGTATAGCT	TAGCCTATAG	GTGTGGGTTA	TTGACCATTA	TTGACCACTC
	ACCATATCGA	ATCGGATATC	CACACCCAAT	AACTGGTAAT	AACTGGTGAG
1301	CCCTATTGGT	GACGATACTT	TCCATTACTA	ATCCATAACA	TGGCTCTTTG
	GGGATAACCA	CTGCTATGAA	AGGTAATGAT	TAGGTATTGT	ACCGAGAAAC
1351	CCACAACATAT	CTCTATTGGC	TATATGCCAA	TACTCTGTCC	TTCAGAGACT
	GGTGTTGATA	GAGATAACCG	ATATACGGTT	ATGAGACAGG	AAGTCTCTGA
1401	GACACGGACT	CTGTATTTTT	ACAGGATGGG	GTCCATTTAT	TATTTACAAA
	CTGTGCCTGA	GACATAAAAA	TGTCCTACCC	CAGGTAAATA	ATAAATGTTT

FIG. 2C

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1451  TTCACATATA CAACAACGCC GTCCCCCGTG CCCGCAGTTT TTATTAAACA
      AAGTGTATAT GTTGTTGCGG CAGGGGGCAC GGGCGTCAAA AATAATTTGT

                                     MroI
                                     -----
                                     BspEI
                                     -----
                                     BseAI
                                     -----
                                     AccIII
                                     -----

1501  TAGCGTGGGA TCTCCGACAT CTCGGGTACG TGTTCGGAC ATGGGCTCTT
      ATCGCACCCCT AGAGGCTGTA GAGCCCATGC ACAAGGCCTG TACCCGAGAA

1551  CTCCGGTAGC GCGCGAGCTT CCACATCCGA GCCCTGGTCC CATCCGTCCA
      GAGGCCATCG CCGCCTCGAA GGTGTAGGCT CGGGACCAGG GTAGGCAGGT

1601  GCGGCTCATG GTCGCTCGGC AGCTCCTTGC TCCTAACAGT GGAGGCCAGA
      CGCCGAGTAC CAGCGAGCCG TCGAGGAACG AGGATTGTCA CCTCCGGTCT

1651  CTTAGGCACA GCACAATGCC CACCACCACC AGTGTGCCGC ACAAGGCCGT
      GAATCCGTGT CGTGTTACGG GTGGTGGTGG TCACACGGCG TGTTCGGCA

1701  GGCGGTAGGG TATGTGTCTG AAAATGAGCT CGGAGATTGG GCTCGCACCT
      CCGCCATCCC ATACACAGAC TTTTACTCGA GCCTCTAACC CGAGCGTGGA

                                     BfrI
                                     -----
                                     AflII
                                     -----
                                     PvuII
                                     -----

1751  GGACGCAGAT GGAAGACTTA AGGCAGCGGC AGAAGAAGAT GCAGGCAGCT
      CCTGCGTCTA CTTTCTGAAT TCCGTCGCCG TCTTCTTCTA CGTCCGTCTGA

      PvuII
      -
                                     HpaI
                                     -

1801  GAGTTGTTGT ATTCTGATAA GAGTCAGAGG TAACTCCCGT TGCGGTGCTG
      CTCAACAACA TAAGACTATT CTCAGTCTCC ATTGAGGGCA ACGCCACGAC

      HpaI
      -----

1851  TTAACGGTGG AGGGCAGTGT AGTCTGAGCA GTACTCGTTG CTGCCGCGCG
      AATTGCCACC TCCCGTCACA TCAGACTCGT CATGAGCAAC GACGGCGCGC

1901  CGCCACCAGA CATAATAGCT GACAGACTAA CAGACTGTTC CTTTCCATGG
      GCGGTGGTCT GTATTATCGA CTGTCTGATT GTCTGACAAG GAAAGGTACC

+2                                     SEQ ID NO: 3—>M   Q   W   N
                                     Sali
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1951  GTCTTTTCTG CAGTCACCGT CGTCGACCTA AGAATTCATG CAGTGGAAC
      CAGAAAAGAC GTCAGTGGCA GCAGCTGGAT TCTTAAGTAT GTCACCTTGA

+2  S   T   A   F   H   Q   T   L   Q   D   P   R   V   R   G   L   Y
2001  CCACTGCCTT CCACCAAAC CTGCAGGATC CCAGAGTCAG GGGTCTGTAT
      GGTGACGGAA GGTGGTTTGA GACGTCCTAG GGTCTCAGTC CCCAGACATA

+2  L   P   A   G   G   S   S   S   G   T   V   N   P   A   P   N   I
2051  CTTCTGCTG GTGGCTCCAG TTCAGGAACA GTAAACCCTG CTCCGAATAT
      GAAGGACGAC CACCGAGGTC AAGTCCTTGT CATTTGGGAC GAGGCTTATA

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FIG. 2D

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+2  A S H I S S I S A R T G D P V T
2101  TGCCTCTCAC ATCTCGTCAA TCTCCGCGAG GACTGGGGAC CCTGTGACGA
      ACGGAGAGTG TAGAGCAGTT AGAGGCGCTC CTGACCCCTG GGACACTGCT

+2  N M E N I T S G F L G P L L V L Q
2151  ACATGGAGAA CATCACATCA GGATTCTAG GACCCCTGCT CGTGTACAG
      TGTACCTCTT GTAGTGTAGT CCTAAGGATC CTGGGGACGA GCACAATGTC

+2  A G F F L L T R I L T I P Q S L D
2201  GCGGGGTTTT TCTTGTTGAC AAGAATCCTC ACAATACCGC AGAGTCTAGA
      CGCCCCAAAA AGAACAACTG TTCTTAGGAG TGTATGGCG TCTCAGATCT

+2  S W W T S L N F L G G S P V C L
2251  CTCGTGGTGG ACTTCTCTCA ATTTTCTAGG GGGATCTCCC GTGTGTCTTG
      GAGACCACC TGAAGAGAGT TAAAAGATCC CCCTAGAGGG CACACAGAAC

+2  G Q N S Q S P T S N H S P T S C P
2301  GCCAAAATTC GCAGTCCCA ACCTCCAATC ACTCACCAAC CTCCTGTCCT
      CGGTTTAAAG CGTCAGGGGT TGGAGGTTAG TGAGTGGTTG GAGGACAGGA

+2  P I C P G Y R W M C L R R F I I F
2351  CCAATTGTCT CTGGTTATCG CTGGATGTGT CTGCGGCGTT TTATCATATT
      GGTTAAACAG GACCAATAGC GACCTACACA GACGCCGCAA AATAGTATAA

+2  L F I L L L C L I F L L V L L D
2401  CCTCTTCATC CTGCTGCTAT GCCTCATCTT CTTATTGGTT CTTCTGGATT
      GGAGAAGTAG GACGACGATA CGGAGTAGAA GAATAACCAA GAAGACCTAA

+2  Y Q G M L P V C P L I P G S T T T
2451  ATCAAGGTAT GTTGCCCGTT TGTCTCTAA TTCCAGGATC AACACAACC
      TAGTTCCATA CAACGGGCAA ACAGGAGATT AAGGTCCTAG TTGTTGTTGG

+2  S T G P C K T C T T P A Q G N S M
      BstAPI
      -----
      BspMI          EcoNI
      -----
2501  AGTACGGGAC CATGCAAAAC CTGCACGACT CCTGCTCAAG GCAACTCTAT
      TCATGCCCTG GTACGTTTGT GACGTGCTGA GGACGAGTTC CGTTGAGATA
      BsgI
      -----

+2  F P S C C C T K P T D G N C T C
2551  GTTTCCTCA TGTGCTGTA CAAAACCTAC GGATGGAAAT TGCACCTGTA
      CAAAGGGAGT ACAACGACAT GTTTTGGATG CCTACCTTTA ACGTGGACAT

+2  I P I P S S W A F A K Y L W E W A
      BstXI
      -----
2601  TTCCCATCCC ATCGTCCTGG GCTTTCGCAA AATACCTATG GGAGTGGGCC
      AAGGGTAGGG TAGCAGGACC CGAAAGCGTT TTATGGATAC CCTCACCCTG

+2  S V R F S W L S L L V P F V Q W F
2651  TCAGTCCGTT TCTCTGGCT CAGTTTACTA GTGCCATTTG TTCAGTGGTT
      AGTCAGGCAA AGAGAACCGA GTCAAATGAT CACGGTAAAC AAGTCACCAA

+2  V G L S P T V W L S A I W M M W
2701  CGTAGGGCTT TCCCCACTG TTTGGCTTTC AGCTATATGG ATGATGTGGT
      GCATCCCGAA AGGGGGTGAC AAACCGAAAG TCGATATACC TACTACACCA

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FIG. 2E

Appln. No. 10/715,665
Replacement Sheet

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+2 Y W G P S L Y S I V S P F I P L L
2751 ATTGGGGGCC AAGTCTGTAC AGCATCGTGA GTCCCTTTAT ACCGCTGTTA
    TAACCCCGG TTCAGACATG TCGTAGCACT CAGGGAAATA TGGCGACAAT

+2 P I F F C L W V Y I *
                                BstZ17 I
                                -----
                                Bst1107I
                                -----
                                XhoI
                                -----
                                PaeR7I
                                -----

2801 CCAATTTTCT TTTGTCTCTG GGTATACATT TAAGAATTCA GACTCGAGCA
    GGTTAAAAGA AAACAGAGAC CCATATGTAA ATTCTTAAGT CTGAGCTCGT

                                AscI
                                -----
                                EcoRV
                                -----
                                MluI
                                -----

2851 AGTCTAGAAA GGCGCGCCAA GATATCAAGG ATCCACTACG CGTTAGAGCT
    TCAGATCTTT CCGCGCGGTT CTATAGTTCC TAGGTGATGC GCAATCTCGA

                                BclI
                                -----

2901 CGCTGATCAG CCTCGACTGT GCCTTCTAGT TGCCAGCCAT CTGTTGTTTG
    GCGACTAGTC GGAGCTGACA CGGAAGATCA ACGGTCGGTA GACAACAAAC

2951 CCCCTCCCCC GTGCCTTCCT TGACCCTGGA AGGTGCCACT CCCACTGTCC
    GGGGAGGGGG CACGGAAGGA ACTGGGACCT TCCACGGTGA GGGTGACAGG

3001 TTTCTTAATA AAATGAGGAA ATTGCATCGC ATTGTCTGAG TAGGTGTCAT
    AAAGGATTAT TTTACTCCTT TAACGTAGCG TAACAGACTC ATCCACAGTA

3051 TCTATTCTGG GGGGTGGGGT GGGGCAGGAC AGCAAGGGGG AGGATTGGGA
    AGATAAGACC CCCACCCCA CCCCGTCCTG TCGTTCCCCC TCCTAACCCCT

3101 AGACAATAGC AGGCATGCTG GGGAGCTCTT CCGCTTCCTC GCTCACTGAC
    TCTGTTATCG TCCGTACGAC CCCTCGAGAA GGCGAAGGAG CGAGTGACTG

3151 TCGCTGCGCT CGGTCGTTCT GCTGCGGCGA GCGGTATCAG CTCACTCAAA
    AGCGACGCGA GCCAGCAAGC CGACGCCGCT CGCCATAGTC GAGTGAGTTT

                                Pci I
                                ---

3201 GGCGGTAATA CGGTTATCCA CAGAATCAGG GGATAACGCA GGAAAGAACA
    CCGCCATTAT GCCAATAGGT GTCTTAGTCC CCTATTGCGT CCTTTCCTGT

                                Pci I
                                ---

3251 TGTGAGCAAA AGGCCAGCAA AAGGCCAGGA ACCGTAAAAA GGCCGCGTTG
    ACACTCGTTT TCCGGTCGTT TTCCGGTCCT TGGCATTTTT CCGGCGCAAC

3301 CTGGCGTTTT TCCATAGGCT CCGCCCCCT GACGAGCATC AAAAAATCG
    GACCGCAAAA AGGTATCCGA GCGGGGGGA CTGCTCGTAG TGTTTTTAGC

3351 ACGCTCAAGT CAGAGGTGGC GAAACCCGAC AGGACTATAA AGATACCAGG
    TGCGAGTTCA GTCTCCACCG CTTTGGGCTG TCCTGATATT TCTATGGTCC

3401 CGTTTCCCCC TGGAAGCTCC CTCGTGCGCT CTCCTGTTCC GACCCTGCCG
    GCAAAGGGGG ACCTTCGAGG GAGCACGCGA GAGGACAAGG CTGGGACGGC

```

FIG. 2F

					HaeII

3451	CTTACCGGAT	ACCTGTCCGC	CTTTCTCCCT	TCGGGAAGCG	TGGCGCTTTC
	GAATGGCCTA	TGGACAGGCG	GAAAGAGGGA	AGCCCTTCGC	ACCGCGAAAG
3501	TCAATGCTCA	CGCTGTAGGT	ATCTCAGTTC	GGTGTAGGTC	GTTTCGCTCCA
	AGTTACGAGT	GCGACATCCA	TAGAGTCAAG	CCACATCCAG	CAAGCGAGGT
3551	AGCTGGGCTG	TGTGCACGAA	CCCCCGTTC	AGCCCGACCG	CTGCGCCTTA
	TCGACCCGAC	ACACGTGCTT	GGGGGGCAAG	TCGGGCTGGC	GACGCGGAAT
3601	TCCGGTAACT	ATCGTCTTGA	GTCCAACCCG	GTAAGACACG	ACTTATCGCC
	AGGCCATTGA	TAGCAGAACT	CAGGTTGGGC	CATTCTGTGC	TGAATAGCGG
3651	ACTGGCAGCA	GCCACTGGTA	ACAGGATTAG	CAGAGCGAGG	TATGTAGGCG
	TGACCGTCGT	CGGTGACCAT	TGTCCTAATC	GTCTCGCTCC	ATACATCCGC
3701	GTGCTACAGA	GTTCTTGAAG	TGGTGGCCTA	ACTACGGCTA	CACTAGAAGG
	CACGATGTCT	CAAGAACTTC	ACCACCGGAT	TGATGCCGAT	GTGATCTTCC
3751	ACAGTATTTG	GTATCTGCGC	TCTGCTGAAG	CCAGTTACCT	TCGGAAAAAG
	TGTCATAAAC	CATAGACGCG	AGACGACTTC	GGTCAATGGA	AGCCTTTTTC
3801	AGTTGGTAGC	TCTTGATCCG	GCAAACAAAC	CACCGCTGGT	AGCGGTGGTT
	TCAACCATCG	AGAACTAGGC	CGTTTGTTTG	GTGGCGACCA	TCGCCACCAA
3851	TTTTTGTTTG	CAAGCAGCAG	ATTACGCGCA	GAAAAAAGG	ATCTCAAGAA
	AAAAACAAAC	GTTTCGTCGT	TAATGCGCGT	CTTTTTTTCC	TAGAGTTCTT
3901	GATCCTTTGA	TCTTTTCTAC	GGGGTCTGAC	GCTCAGTGGA	ACGAAAACTC
	CTAGGAAACT	AGAAAAGATG	CCCCAGACTG	CGAGTCACCT	TGCTTTTGAG
3951	ACGTTAAGGG	ATTTTGGTCA	TGAGATTATC	AAAAAGGATC	TTCACCTAGA
	TGCAATTCCC	TAAAACCAGT	ACTCTAATAG	TTTTTCCTAG	AAGTGGATCT
4001	TCCTTTTAAA	TTAAAAATGA	AGTTTTTAAAT	CAATCTAAAG	TATATATGAG
	AGGAAAATTT	AATTTTACT	TCAAAATTTA	GTTAGATTTC	ATATATACTC
4051	TAAACTTGGT	CTGACAGTTA	CCAATGCTTA	ATCAGTGAGG	CACCTATCTC
	ATTTGAACCA	GACTGTCAAT	GGTTACGAAT	TAGTCACTCC	GTGGATAGAG
				Eam1105I	

				AspEI	

4101	AGCGATCTGT	CTATTTTCGTT	CATCCATAGT	TGCCTGACTC	CCCGTCGTGT
	TCGCTAGACA	GATAAAGCAA	GTAGGTATCA	ACGGACTGAG	GGGCAGCACA
4151	AGATAACTAC	GATACGGGAG	GGCTTACCAT	CTGGCCCCAG	TGCTGCAATG
	TCTATTGATG	CTATGCCCTC	CCGAATGGTA	GACCGGGGTC	ACGACGTTAC

FIG. 2G

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                                Cfr10I
                                -----
                                BsrFI
                                -----
4201  ATACCGCGAG ACCCACGCTC ACCGGCTCCA GATTTATCAG CAATAAACCA
      TATGGCGCTC TGGGTGCGAG TGGCCGAGGT CTAAATAGTC GTTATTTGGT
      BsaI
      -----

4251  GCCAGCCGGA AGGGCCGAGC GCAGAAGTGG TCCTGCAACT TTATCCGCCT
      CGGTCGGCCT TCCC GGCTCG CGTCTTCACC AGGACGTTGA AATAGGCGGA

4301  CCATCCAGTC TATTAATTGT TGCCGGGAAG CTAGAGTAAG TAGTTCGCCA
      GGTAGGTCAG ATAATTAACA ACGGCCCTTC GATCTCATTC ATCAAGCGGT

      FspI
      -----
      AvIII
      -----
      AseI
      -----

4351  GTTAATAGTT TGC GCAACGT TGT TGCCATT GCTACAGGCA TCGTGGTGTG
      CAATTATCAA ACGCGTTGCA ACAACGGTAA CGATGTCCGT AGCACCACAG

4401  ACGCTCGTCG TTTGGTATGG CTTCAATCAG CTCCGGTTCC CAACGATCAA
      TGCGAGCAGC AAACCATACC GAAGTAAGTC GAGGCCAAGG GTTGCTAGTT

4451  GGC GAGTTAC ATGATCCCC ATGTTGTGCA AAAAAGCGGT TAGCTCCTTC
      CCGCTCAATG TACTAGGGGG TACAACACGT TTTTTCGCCA ATCGAGGAAG

      PvuI
      -----

4501  GGTCTCTCCGA TCGTTGTCAG AAGTAAGTTG GCCG CAGTGT TATCACTCAT
      CCAGGAGGCT AGCAACAGTC TTCATTCAAC CGGCGTCACA ATAGTGAGTA

4551  GGTTATGGCA GCACTGCATA ATTCTCTTAC TGTCATGCCA TCCGTAAGAT
      CCAATACCGT CGTGACGTAT TAAGAGAATG ACAGTACGGT AGGCATTCTA

4601  GCTTTTCTGT GACTGGTGAG TACTCAACCA AGTCATTCTG AGAATAGTGT
      CGAAAAGACA CTGACCACTC ATGAGTTGGT TCAGTAAGAC TCTTATCACA

      BcgI
      -----

4651  ATGCGGCGAC CGAGTTGCTC TTGCCCCGCG TCAATACGGG ATAATACCGC
      TACGCCGCTG GCTCAACGAG AACGGGCCGC AGTTATGCCC TATTATGGCG

                                XmnI
                                -----
                                Asp700
                                -----

4701  GCCACATAGC AGAACTTTAA AAGTGCTCAT CATTGGAAAA CGTTCTTCGG
      CCGTGTATCG TCTTGAAATT TTCACGAGTA GTAACCTTTT GCAAGAAGCC

4751  GGCGAAAACT CTCAAGGATC TTACCGCTGT TGAGATCCAG TTCGATGTAA
      CCGCTTTTGA GAGTTCCTAG AATGGCGACA ACTCTAGGTC AAGCTACATT

4801  CCCACTCGTG CACCCAAC TGCTTCAGCA TCTTTTACTT TCACCAGCGT
      GGGTGAGCAC GTGGGTTGAC TAGAAGTCGT AGAAAATGAA AGTGGTCGCA

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FIG. 2H

4851 TTCTGGGTGA GCAAAAACAG GAAGGCAAAA TGCCGCAAAA AAGGGAATAA
AAGACCCACT CGTTTTTGTC CTTCCTTTT ACGGCGTTTT TTCCCTTATT

4901 GGGCGACACG GAAATGTTGA ATACTCATAC TCTTCCTTTT TCAATATTAT
CCCCTGTGTC CTTTACAACCT TATGAGTATG AGAAGGAAAA AGTTATAATA

4951 TGAAGCATTT ATCAGGGTTA TTGTCTCATG AGCGGATACA TATTTGAATG
ACTTCGTAAA TAGTCCCAAT AACAGAGTAC TCGCCTATGT ATAAACTTAC

5001 TATTTAGAAA AATAAACAAA TAGGGGTTCC GCGCACATTT CCCCAGAAAAG
ATAAATCTTT TTATTTGTTT ATCCCCAAGG CGCGTGTAAG GGGGCTTTTC

5051 TGCCACCTGA CGTCTAAGAA ACCATTATTA TCATGACATT AACCTATAAA
ACGGTGGACT GCAGATTCTT TGGTAATAAT AGTACTGTAA TTGGATATTT

5101 AATAGGCGTA TCACGAGGCC CTTTCGTC
TTATCCGCAT AGTGCTCCGG GAAAGCAG

FIG. 21

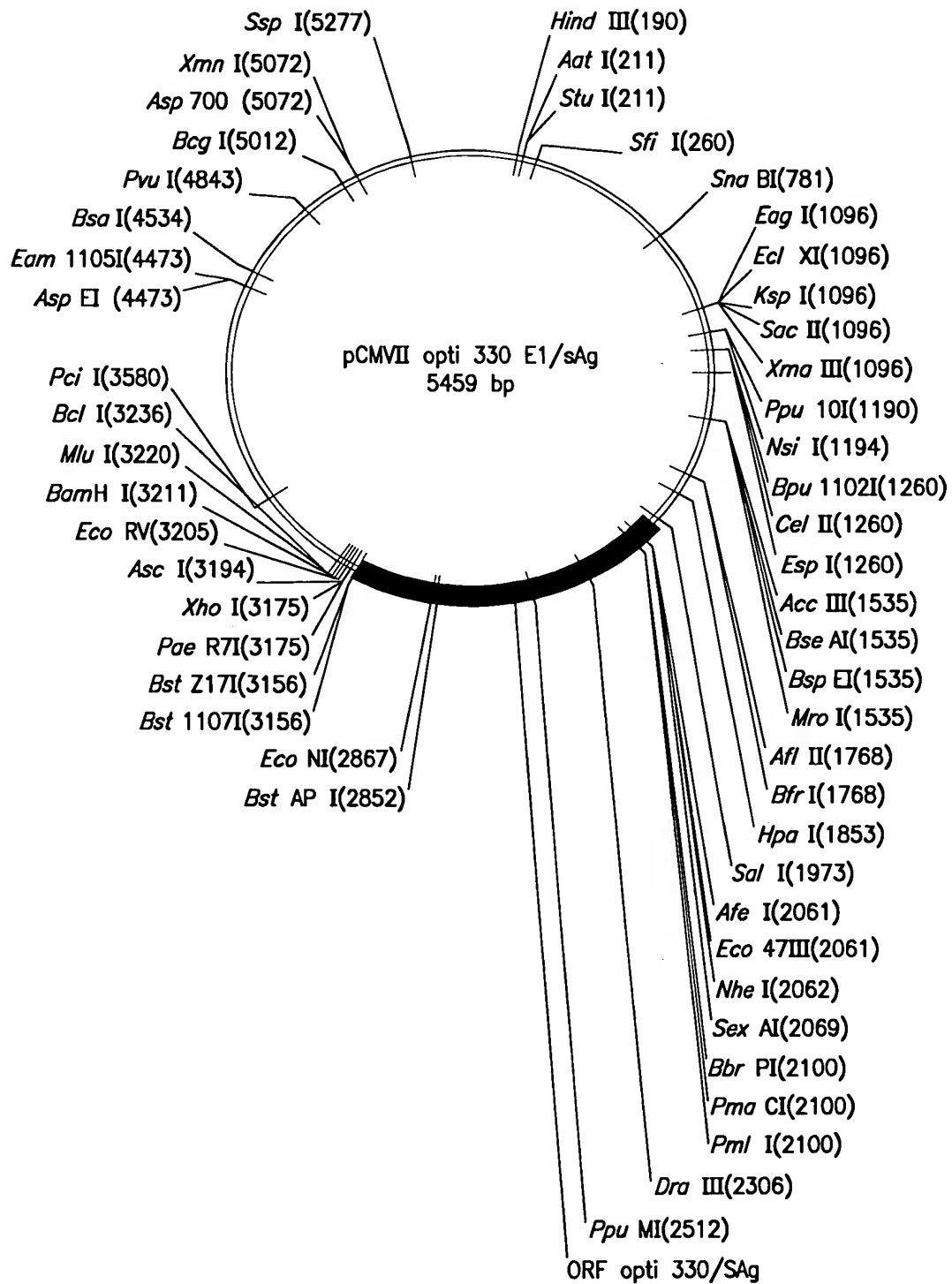


FIG. 3A

SEQ ID NO: 4

→ 1 TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGCTCCCG
AGCGCGCAAA GCCACTACTG CCACTTTTGG AGACTGTGTA CGTCGAGGGC

51 GAGACGGTCA CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA GACAAGCCCG
CTCTGCCAGT GTCGAACAGA CATTTCGCCTA CGGCCCTCGT CTGTTCTGGGC

101 TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG
AGTCCCGCGC AGTCGCCAC AACC GCCCAC AGCCCCGACC GAATTGATAC

HindIII

151 CGGCATCAGA GCAGATTGTA CTGAGAGTGC ACCATATGAA GCTTTTTGCA
GCCGTAGTCT CGTCTAACAT GACTCTCACG TGGTATACTT CGAAAAACGT

StuI

AatI

201 AAAGCCTAGG CCTCCAAAAA AGCCTCCTCA CTACTTCTGG AATAGCTCAG
TTTCGGATCC GGAGGTTTTT TCGGAGGAGT GATGAAGACC TTATCGAGTC

SfiI

251 AGGCCGAGGC GGCCTCGGCC TCTGCATAAA TAAAAAAAAT TAGTCAGCCA
TCCGGCTCCG CCGGAGCCGG AGACGTATTT ATTTTTTTTA ATCAGTCGGT

301 TGGGGCGGAG AATGGGCGGA ACTGGGCGGG GAGGGAATTA TTGGCTATTG
ACCCCGCCTC TTACCCGCCT TGACCCGCCC CTCCCTTAAT AACC GATAAC

351 GCCATTGCAT ACGTTGTATC TATATCATAA TATGTACATT TATATTGGCT
CGGTAACGTA TGCAACATAG ATATAGTATT ATACATGTAA ATATAACCGA

401 CATGTCCAAT ATGACCGCCA TGTGACATT GATTATTGAC TAGTTATTAA
GTACAGGTTA TACTGGCGGT ACAACTGTAA CTAATAACTG ATCAATAATT

451 TAGTAATCAA TTACGGGGTC ATTAGTTCAT AGCCCATATA TGGAGTTCCG
ATCATTAGTT AATGCCCCAG TAATCAAGTA TCGGGTATAT ACCTCAAGGC

501 CGTTACATAA CTTACGGTAA ATGGCCCGCC TGGCTGACCG CCCAACGACC
GCAATGTATT GAATGCCATT TACCGGGCGG ACCGACTGGC GGGTTGCTGG

551 CCCGCCCAT TACGTCAATA ATGACGTATG TTCCCATAGT AACGCCAATA
GGCGGGGTAA CTGCAGTTAT TACTGCATAC AAGGGTATCA TTGCGGTTAT

601 GGGACTTTCC ATTGACGTCA ATGGGTGGAG TATTTACGGT AAAGTCCCA
CCCTGAAAGG TAACTGCAGT TACCCACCTC ATAAATGCCA TTTGACGGGT

651 CTTGGCAGTA CATCAAGTGT ATCATATGCC AAGTCCGCCC CCTATTGACG
GAACCGTCAT GTAGTTCACA TAGTATACGG TTCAGGCGGG GGATAACTGC

701 TCAATGACGG TAAATGGCCC GCCTGGCATT ATGCCAGTA CATGACCTTA
AGTTACTGCC ATTTACGGG CGGACCGTAA TACGGGTCAT GTACTGGAAT

SnaBI

751 CGGGACTTTC CTACTTGGCA GTACATCTAC GTATTAGTCA TCGCTATTAC
GCCCTGAAAG GATGAACCGT CATGTAGATG CATAATCAGT AGCGATAATG

FIG. 3B

801	CATGGTGATG	CGGTTTTGGC	AGTACACCAA	TGGGCGTGGA	TAGCGGTTTG
	GTACCACTAC	GCCAAAACCG	TCATGTGGTT	ACCCGCACCT	ATCGCCAAAC
851	ACTCACGGGG	ATTTCCAAGT	CTCCACCCCA	TTGACGTCAA	TGGGAGTTTG
	TGAGTGCCCC	TAAAGGTTCA	GAGGTGGGGT	AACTGCAGTT	ACCCTCAAAC
901	TTTTGGCACC	AAAATCAACG	GGACTTTCCA	AAATGTCGTA	ATAACCCCGC
	AAAACCGTGG	TTTGTAGTTG	CCTGAAAGGT	TTTACAGCAT	TATTGGGGCG
951	CCCGTTGACG	CAAATGGGCG	GTAGGCGTGT	ACGGTGGGAG	GTCTATATAA
	GGGCAACTGC	GTTTACCCGC	CATCCGCACA	TGCCACCCTC	CAGATATATT
1001	GCAGAGCTCG	TTTAGTGAAC	CGTCAGATCG	CCTGGAGACG	CCATCCACGC
	CGTCTCGAGC	AAATCACTTG	GCAGTCTAGC	GGACCTCTGC	GGTAGGTGCG
				XmaIII	

				SacII	

				KspI	

				EclXI	

				EagI	

1051	TGTTTTGACC	TCCATAGAAG	ACACCGGGAC	CGATCCAGCC	TCCGCGGCCG
	ACAAAACCTG	AGGTATCTTC	TGTGGCCCTG	GCTAGGTCGG	AGGCGCCCGC
1101	GGAACGGTGC	ATTGGAACGC	GGATTCCCCG	TGCCAAGAGT	GACGTAAGTA
	CCTTGCCACG	TAACCTTGCG	CCTAAGGGGC	ACGGTTCTCA	CTGCATTTCAT
				PpuI 0I	

				NsiI	

1151	CCGCCTATAG	ACTCTATAGG	CACACCCCTT	TGGCTCTTAT	GCATGCTATA
	GGCGGATATC	TGAGATATCC	GTGTGGGGAA	ACCGAGAATA	CGTACGATAT
1201	CTGTTTTTTG	CTTGGGGCCT	ATACACCCCC	GCTCCTTATG	CTATAGGTGA
	GACAAAAACC	GAACCCCGGA	TATGTGGGGG	CGAGGAATAC	GATATCCACT
				EspI	

				CelII	

				Bpu1102I	

1251	TGGTATAGCT	TAGCCTATAG	GTGTGGGTTA	TTGACCATTA	TTGACCACTC
	ACCATATCGA	ATCGGATATC	CACACCCAAT	AACTGGTAAT	AACTGGTGGG
1301	CCCTATTGGT	GACGATACTT	TCCATTACTA	ATCCATAACA	TGGCTCTTTG
	GGGATAACCA	CTGCTATGAA	AGGTAATGAT	TAGGTATTGT	ACCGAGAAAC
1351	CCACAACATAT	CTCTATTGGC	TATATGCCAA	TACTCTGTCC	TTCAGAGACT
	GGTGTTGATA	GAGATAACCG	ATATACGGTT	ATGAGACAGG	AAGTCTCTGA
1401	GACACGGACT	CTGTATTTTT	ACAGGATGGG	GTCCATTTAT	TATTTACAAA
	CTGTGCCTGA	GACATAAAAA	TGTCCTACCC	CAGGTAAATA	ATAAATGTTT

FIG. 3C

Appln. No. 10/715,665
Replacement Sheet

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1451  TTCACATATA CAACAACGCC GTCCCCCGTG CCCGCAGTTT TTATTAAACA
      AAGTGTATAT GTTGTTCGCG CAGGGGGCAC GGGCGTCAAA AATAATTTGT

                                     MroI
                                     -----
                                     BspEI
                                     -----
                                     BseAI
                                     -----
                                     AccIII
                                     -----

1501  TAGCGTGGGA TCTCCGACAT CTCGGGTACG TGTTCCGGAC ATGGGCTCTT
      ATCGCACCTT AGAGGCTGTA GAGCCCATGC ACAAGGCCTG TACCCGAGAA

1551  CTCCGGTAGC GGC GGAGCTT CCACATCCGA GCCCTGGTCC CATCCGTCCA
      GAGGCCATCG CCGCCTCGAA GGTGTAGGCT CCGGACCAGG GTAGGCAGGT

1601  GCGGCTCATG GTCGCTCGGC AGCTCCTTGC TCCTAACAGT GGAGGCCAGA
      CGCCGAGTAC CAGCGAGCCG TCGAGGAACG AGGATTGTCA CCTCCGGTCT

1651  CTTAGGCACA GCACAATGCC CACCACCACC AGTGTGCCGC ACAAGGCCGT
      GAATCCGTGT CGTGTTACGG GTGGTGGTGG TCACACGGCG TGTTCGGCA

1701  GGCGGTAGGG TATGTGTCTG AAAATGAGCT CGGAGATTGG GCTCGCACCT
      CCGCCATCCC ATACACAGAC TTTTACTCGA GCCTCTAACC CGAGCGTGGA

                                     BfrI
                                     -----
                                     AflII
                                     -----

1751  GGACGCAGAT GGAAGACTTA AGGCAGCGGC AGAAGAAGAT GCAGGCAGCT
      CCTGCGTCTA CCTTCTGAAT TCCGTCGCCG TCTTCTTCTA CGTCCGTCGA

                                     HpaI
                                     -----

1801  GAGTTGTTGT ATTCTGATAA GAGTCAGAGG TAACTCCCGT TGCGGTGCTG
      CTCAACAACA TAAGACTATT CTCAGTCTCC ATTGAGGGCA ACGCCACGAC

      HpaI
      -----

1851  TTAACGGTGG AGGGCAGTGT AGTCTGAGCA GTACTCGTTG CTGCCGCGCG
      AATTGCCACC TCCCGTCACA TCAGACTCGT CATGAGCAAC GACGGCGCGC

1901  CGCCACCAGA CATAATAGCT GACAGACTAA CAGACTGTTC CTTTCCATGG
      GCGGTGGTCT GTATTATCGA CTGTCTGATT GTCTGACAAG GAAAGGTACC

+3                                     SEQ ID NO: 5 ———> M D A
                                     SalI
                                     -----

1951  GTCTTTTCTG CAGTCACCGT CGTCGACGAA TTCAAGCAAT CATGGATGCA
      CAGAAAAGAC GTCAGTGGCA GCAGCTGCTT AAGTTCGTTA GTACCTACGT

+3  M K R G L C C V L L L C G A V F V
2001 ATGAAGAGAG GGCTCTGCTG TGTGCTGCTG CTGTGTGGAG CAGTCTTCGT
      TACTTCTCTC CCGAGACGAC ACACGACGAC GACACACCTC GTCAGAAGCA

```

FIG. 3D

```

+3   S P S   A S Y Q   V R N   S T G   L Y   H
      PmlI
      NheI
      -----
      Eco47III
      -----
      Afe I       SexAI
      -----
2051  TTCGCCCAGC GCTAGCTACC AGGTGCGCAA CAGCACCAGC CTGTACCACG
      AAGCGGGTCG CGATCGATGG TCCACGCGTT GTCGTGGCCG GACATGGTGC

+3   V T N D   C P N   S S I V   Y E A   A D A
      PmlI
      --
      PmaCI
      --
      BbrPI
      --
2101  TGACCAACGA CTGCCCCAAC AGCAGCATCG TGTACGAGGC CGCCGACGCC
      ACTGGTTGCT GACGGGGTTG TCGTCGTAGC ACATGCTCCG GCGGCTGCGG

+3   I L H T   P G C   V P C   V R E G   N A S
2151  ATCTGACACA CCCCCGGCTG CGTGCCCTGC GTGCGCGAGG GCAACGCCAG
      TAGGACGTGT GGGGGCCGAC GCACGGGACG CACGCGCTCC CGTTGCGGTC

+3   R C W   V A M T   P T V   A T R   D G K
2201  CCGCTGCTGG GTGGCCATGA CCCCCACCGT GGCCACCCGC GACGGCAAGC
      GCGACGACC CACCGGTACT GGGGGTGGCA CCGGTGGGCG CTGCCGTTCG

+3   L P A T   Q L R   R H I D   L L V   G S A
      DraIII
2251  TGCCCCCCAC CCAGCTGCGC CGCCACATCG ACCTGCTGGT GGGCAGCGCC
      ACGGGCGGTG GGTCGACGCG GCGGTGTAGC TGGACGACCA CCGTGC GCGG

+3   T L C S   A L Y   V G D   L C G S   V F L
      DraIII
2301  ACCCTGTGCA GCGCCCTGTA CGTGGGCGAC CTGTGCGGCA GCGTGTTCCT
      TGGGACACGT CGCGGGACAT GCACCCGCTG GACACGCCGT CGCACAAGGA

+3   V G Q   L F T F   S P R   R H W   T T Q
2351  GGTGGGCCAG CTGTTACCTT TCAGCCCCCG CCGCCACTGG ACCACCCAGG
      CCACCCGGTC GACAAGTGA ATGCGGGGGC GCGGTGACC TGGTGGGTCC

+3   G C N C   S I Y   P G H I   T G H   R M A
2401  GCTGCAACTG CAGCATCTAC CCCGGCCACA TCACCGGCCA CCGCATGGCC
      CGACGTTGAC GTCGTAGATG GGGCCGGTGT AGTGGCCGGT GCGTACCGG

+3   W D M M   M N W   S P T   T M E N   I T S
2451  TGGGACATGA TGATGAACCT GAGCCCCACC ACCATGGAGA ACATCACATC
      ACCCTGTACT ACTACTTGAC CTCGGGGTGG TGGTACCTCT TGTA GTAG

+3   G F L   G P L L   V L Q   A G F   F L L
      PpuMI
2501  AGGATTCTTA GGACCCCTGC TCGTGTTACA GGCGGGGTTT TTCTTGTGTA
      TCCTAAGGAT CCTGGGGACG AGCACAATGT CCGCCCCAAA AAGAACAAC

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FIG. 3E

Appln. No. 10/715,665
Replacement Sheet

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+3  T R I L   T I P   Q S L D   S W W   T S L
2551 CAAGAATCCT CACAATACCG CAGAGTCTAG ACTCGTGGTG GACTTCTCTC
    GTTCTTAGGA GTGTTATGGC GTCTCAGATC TGAGCACCAC CTGAAGAGAG

+3  N F L G   G S P   V C L   G Q N S   Q S P
2601 AATTTTCTAG GGGGATCTCC CGTGTGTCTT GGCCAAAATT CGCAGTCCCC
    TTAAAAGATC CCCCTAGAGG GCACACAGAA CCGGTTTTAA GCGTCAGGGG

+3  T S N   H S P T   S C P   P I C   P G Y
2651 AACCTCCAAT CACTCACCAA CCTCCTGTCC TCCAATTTGT CCTGGTTATC
    TTGGAGGTTA GTGAGTGTTT GGAGGACAGG AGGTAAACA GGACCAATAG

+3  R W M C   L R R   F I I F   L F I   L L L
2701 GCTGGATGTG TCTGCGGCGT TTTATCATAT TCCTCTTCAT CCTGCTGCTA
    CGACCTACAC AGACGCCGCA AAATAGTATA AGGAGAAGTA GGACGACGAT

+3  C L I F   L L V   L L D   Y Q G M   L P V
2751 TGCCTCATCT TCTTATTGGT TCTTCTGGAT TATCAAGGTA TGTTGCCCGT
    ACGGAGTAGA AGAATAACCA AGAAGACCTA ATAGTTCCAT ACAACGGGCA

+3  C P L   I P G S   T T T   S T G   P C K
                                     BstAPI
                                     -----
2801 TTGTCCTCTA ATTCCAGGAT CAACAACAAC CAGTACGGGA CCATGCAAAA
    AACAGGAGAT TAAGTCCTA GTTGTGTTG GTCATGCCCT GGTACGTTTT

+3  T C T T   P A Q   G N S M   F P S   C C C
    BstAP I           EcoNI
    -----
2851 CCTGCACGAC TCCTGCTCAA GGCAACTCTA TGTTTCCCTC ATGTTGCTGT
    GGACGTGCTG AGGACGAGTT CCGTTGAGAT ACAAAGGGAG TACAACGACA

+3  T K P T   D G N   C T C   I P I P   S S W
2901 ACAAACCTA CGGATGGAAA TTGCACCTGT ATTCCCATCC CATCGTCTCTG
    TGTTTTGGAT GCCTACCTTT AACGTGGACA TAAGGGTAGG GTAGCAGGAC

+3  A F A   K Y L W   E W A   S V R   F S W
2951 GGCTTTTCGA AAATACCTAT GGGAGTGGGC CTCAGTCCGT TTCTCTTGGC
    CCGAAAGCGT TTTATGGATA CCCTCACCCG GAGTCAGGCA AAGAGAACCG

+3  L S L L   V P F   V Q W F   V G L   S P T
3001 TCAGTTTACT AGTGCCATTT GTTCAGTGGT TCGTAGGGCT TTCCCCACT
    AGTCAAATGA TCACGGTAAA CAAGTCACCA AGCATCCCGA AAGGGGGTGA

+3  V W L S   A I W   M M W   Y W G P   S L Y
3051 GTTTGGCTTT CAGCTATATG GATGATGTGG TATTGGGGGC CAAGTCTGTA
    CAAACCGAAA GTCGATATAC CTACTACACC ATAACCCCG GTTCAGACAT

+3  S I V   S P F I   P L L   P I F   F C L
3101 CAGCATCGTG AGTCCCTTTA TACCGCTGTT ACCAATTTTC TTTTGTCTCT
    GTCGTAGCAC TCAGGGAAAT ATGGCGACAA TGGTTAAAAG AAAACAGAGA

+3  W V Y I   *
    BstZ17 I           XhoI
    -----
    Bst1107I           PaeR7I           AscI
    -----
3151 GGGTATACAT TTAAGAATTC AGACTCGAGC AAGTCTAGAA AGGCGCGCCA
    CCCATATGTA AATTCTTAAG TCTGAGCTCG TTCAGATCTT TCCGCGCGGT

```

FIG. 3F

Appln. No. 10/715,665
Replacement Sheet

	EcoRV	BamHI	MluI	BclI	
	-----	-----	-----	-----	
3201	AGATATCAAG TCTATAGTTC	GATCCACTAC CTAGGTGATG	GCGTTAGAGC CGCAATCTCG	TCGCTGATCA AGCGACTAGT	GCCTCGACTG CGGAGCTGAC
3251	TGCCTTCTAG ACGGAAGATC	TTGCCAGCCA AACGGTCGGT	TCTGTTGTTT AGACAACAAA	GCCCCTCCCC CGGGGAGGGG	CGTGCTTTCC GCACGGAAGG
3301	TTGACCCTGG AACTGGGACC	AAGGTGCCAC TTCCACGGTG	TCCCACTGTC AGGGTGACAG	CTTTCCTAAT GAAAGGATTA	AAAATGAGGA TTTTACTCCT
3351	AATTGCATCG TTAACGTAGC	CATTGTCTGA GTAACAGACT	GTAGGTGTCA CATCCACAGT	TTCTATTCTG AAGATAAGAC	GGGGGTGGGG CCCCCACCCC
3401	TGGGGCAGGA ACCCCGTCCT	CAGCAAGGGG GTCGTTCCCC	GAGGATTGGG CTCCTAACCC	AAGACAATAG TTCTGTTATC	CAGGCATGCT GTCCGTACGA
3451	GGGGAGCTCT CCCCTCGAGA	TCCGCTTCCT AGGCGAAGGA	CGCTCACTGA GCGAGTGACT	CTCGCTGCGC GAGCGACGCG	TCCGTGCTTC AGCCAGCAAG
3501	GGCTGCGGCG CCGACGCCGC	AGCGGTATCA TCGCCATAGT	GCTCACTCAA CGAGTGAGTT	AGGCGGTAAT TCCGCCATTA	ACGGTTATCC TGCCAATAGG
			Pci I -----		
3551	ACAGAATCAG TGTCTTAGTC	GGGATAACGC CCCTATTGCG	AGGAAAGAAC TCCTTTCTTG	ATGTGAGCAA TACACTCGTT	AAGGCCAGCA TTCCGGTCTG
3601	AAAGGCCAGG TTTCCGGTCC	AACCGTAAAA TTGGCATTTC	AGGCCGCGTT TCCGCGCAA	GCTGGCGTTT CGACCGCAA	TTCCATAGGC AAGGTATCCG
3651	TCCGCCCCC AGGCGGGGG	TGACGAGCAT ACTGCTCGTA	CACAAAAATC GTGTTTTTAG	GACGCTCAAG CTGCGAGTTC	TCAGAGGTGG AGTCTCCACC
3701	CGAAACCCGA GCTTTGGGCT	CAGGACTATA GTCCTGATAT	AAGATACCAG TTCTATGGTC	GCGTTTCCCC CGCAAAGGGG	CTGGAAGCTC GACCTTCGAG
3751	CCTCGTGCGC GGAGCACGCG	TCTCCTGTTC AGAGGACAAG	CGACCCTGCC GCTGGGACGG	GCTTACCGGA CGAATGGCCT	TACCTGTCCG ATGGACAGGC
3801	CCTTTCTCCC GGAAAGAGGG	TTGCGGAAGC AAGCCCTTCG	GTGGCGCTTT CACCGCGAAA	CTCAATGCTC GAGTTACGAG	ACGCTGTAGG TGCGACATCC
3851	TATCTCAGTT ATAGAGTCAA	CGGTGTAGGT GCCACATCCA	CGTTCGCTCC GCAAGCGAGG	AAGCTGGGCT TTCGACCCGA	GTGTGCACGA CACACGTGCT
3901	ACCCCCCGTT TGGGGGGCAA	CAGCCCGACC GTCGGGCTGG	GCTGCGCCTT CGACGCGGAA	ATCCGGTAAC TAGGCCATTG	TATCGTCTTG ATAGCAGAAC
3951	AGTCCAACCC TCAGGTTGGG	GGTAAGACAC CCATTCTGTG	GACTTATCGC CTGAATAGCG	CACTGGCAGC GTGACCGTCG	AGCCACTGGT TCGGTGACCA
4001	AACAGGATTA TTGTCCTAAT	GCAGAGCGAG CGTCTCGCTC	GTATGTAGGC CATACTCCG	GGTGCTACAG CCACGATGTC	AGTTCTTGAA TCAAGAACTT
4051	GTGGTGGCCT CACCACCGGA	AACTACGGCT TTGATGCCGA	ACACTAGAAG TGTGATCTTC	GACAGTATTT CTGTCATAAA	GGTATCTGCG CCATAGACGC

FIG. 3G

4101 CTCTGCTGAA GCCAGTTACC TTCGGAAAAA GAGTTGGTAG CTCTTGATCC
GAGACGACTT CGGTCAATGG AAGCCTTTTT CTCAACCATC GAGAACTAGG

4151 GGCAAACAAA CCACCGCTGG TAGCGGTGGT TTTTTTGTTC GCAAGCAGCA
CCGTTTGTTC GGTGGCGACC ATCGCCACCA AAAAAACAAA CGTTCGTCGT

4201 GATTACGCGC AGAAAAAAG GATCTCAAGA AGATCCTTTG ATCTTTTCTA
CTAATGCGCG TCTTTTTTTC CTAGAGTTCT TCTAGGAAAC TAGAAAAGAT

4251 CGGGGTCTGA CGCTCAGTGG AACGAAAACT CACGTTAAGG GATTTTGGTC
GCCCCAGACT GCGAGTCACC TTGCTTTTGA GTGCAATTCC CTAAAACCAG

4301 ATGAGATTAT CAAAAAGGAT CTTACCTAG ATCCTTTTAA ATTAAAAATG
TACTCTAATA GTTTTTCCTA GAAGTGGATC TAGGAAAATT TAATTTTAC

4351 AAGTTTTTAAA TCAATCTAAA GTATATATGA GTAAACTTGG TCTGACAGTT
TTCAAAATTT AGTTAGATT CATATATACT CATTTGAACC AGACTGTCAA

4401 ACCAATGCTT AATCAGTGAG GCACCTATCT CAGCGATCTG TCTATTTTCGT
TGGTTACGAA TTAGTCACTC CGTGGATAGA GTCGCTAGAC AGATAAAGCA

Eam1105I

AspEI

4451 TCATCCATAG TTGCCTGACT CCCCGTCGTG TAGATAACTA CGATACGGGA
AGTAGGTATC AACGGACTGA GGGGCAGCAC ATCTATTGAT GCTATGCCCT

4501 GGGCTTACCA TCTGGCCCCA GTGCTGCAAT GATACCGCGA GACCCACGCT
CCCGAATGGT AGACCGGGGT CACGACGTTA CTATGGCGCT CTGGGTGCGA
BsaI

4551 CACCGGCTCC AGATTTATCA GCAATAAACC AGCCAGCCGG AAGGGCCGAG
GTGGCCGAGG TCTAAATAGT CGTTATTTGG TCGGTCGGCC TTCCCGGCTC

4601 CGCAGAAGTG GTCCCTGCAAC TTTATCCGCC TCCATCCAGT CTATTAATTG
GCGTCTTCAC CAGGACGTTG AAATAGGCGG AGGTAGGTCA GATAATTAAC

4651 TTGCCGGGAA GCTAGAGTAA GTAGTTCGCC AGTTAATAGT TTGCGCAACG
AACGGCCCTT CGATCTCATT CATCAAGCGG TCAATTATCA AACGCGTTGC

4701 TTGTTGCCAT TGCTACAGGC ATCGTGGTGT CACGCTCGTC GTTTGGTATG
AACAACGGTA ACGATGTCCG TAGCACCACA GTGCGAGCAG CAAACCATAC

4751 GCTTCATTCA GCTCCGGTTC CCAACGATCA AGGCGAGTTA CATGATCCCC
CGAAGTAAGT CGAGGCCAAG GGTGCTAGT TCCGCTCAAT GTACTAGGGG

PvuI

4801 CATGTTGTGC AAAAAAGCGG TTAGCTCCTT CGGTCCTCCG ATCGTTGTCA
GTACAACACG TTTTTTCGCC AATCGAGGAA GCCAGGAGGC TAGCAACAGT

4851 GAAGTAAGTT GGCCGCAGTG TTATCACTCA TGGTTATGGC AGCACTGCAT
CTTCATTCAA CCGGCGTCAC AATAGTGAGT ACCAATACCG TCGTGACGTA

4901 AATTCTCTTA CTGTCATGCC ATCCGTAAGA TGCTTTTCTG TGAAGTGGTA
TTAAGAGAAT GACAGTACGG TAGGCATTCT ACGAAAAGAC ACTGACCACT

FIG. 3H

BcgI

4951 GTACTCAACC AAGTCATTCT GAGAATAGTG TATGCGGCGA CCGAGTTGCT
CATGAGTTGG TTCAGTAAGA CTCTTATCAC ATACGCCGCT GGCTCAACGA

5001 CTTGCCCCGGC GTCAATACGG GATAATACCG CGCCACATAG CAGAACTTTA
GAACGGGCCG CAGTTATGCC CTATTATGGC GCGGTGTATC GTCTTGAAAT

XmnI

Asp700

5051 AAAGTGCTCA TCATTGAAA ACGTTCCTCG GGGCGAAAAC TCTCAAGGAT
TTTCACGAGT AGTAACCTTT TGCAAGAAGC CCCGCTTTTG AGAGTTCCTA

5101 CTTACCGCTG TTGAGATCCA GTTCGATGTA ACCCACTCGT GCACCCAACT
GAATGGCGAC AACTCTAGGT CAAGCTACAT TGGGTGAGCA CGTGGGTTGA

5151 GATCTTCAGC ATCTTTTACT TTCACCAGCG TTTCTGGGTG AGCAAAAACA
CTAGAAGTCG TAGAAAATGA AAGTGGTCGC AAAGACCCAC TCGTTTTTGT

5201 GGAAGGCAAA ATGCCGCAAA AAAGGGAATA AGGGCGACAC GGAATGTTG
CCTTCCGTTT TACGGCGTTT TTTCCCTTAT TCCCGCTGTG CCTTTACAAC

SspI

5251 AATACTCATA CTCTTCCTTT TTCAATATTA TTGAAGCATT TATCAGGGTT
TTATGAGTAT GAGAAGGAAA AAGTTATAAT AACTTCGTAA ATAGTCCCAA

5301 ATTGTCTCAT GAGCGGATAC ATATTTGAAT GTATTTAGAA AAATAAACAA
TAACAGAGTA CTCGCCTATG TATAAACTTA CATAAATCTT TTTATTTGTT

5351 ATAGGGGTTC CGCGCACATT TCCCCGAAAA GTGCCACCTG ACGTCTAAGA
TATCCCCAAG GCGCGTGTA AGGGGCTTTT CACGGTGGAC TGCAGATTCT

5401 AACCATTATT ATCATGACAT TAACCTATAA AAATAGGCGT ATCACGAGGC
TTGGTAATAA TAGTACTGTA ATTGGATATT TTTATCCGCA TAGTGCTCCG

5451 CCTTTCGTC
GGAAAGCAG

FIG. 31

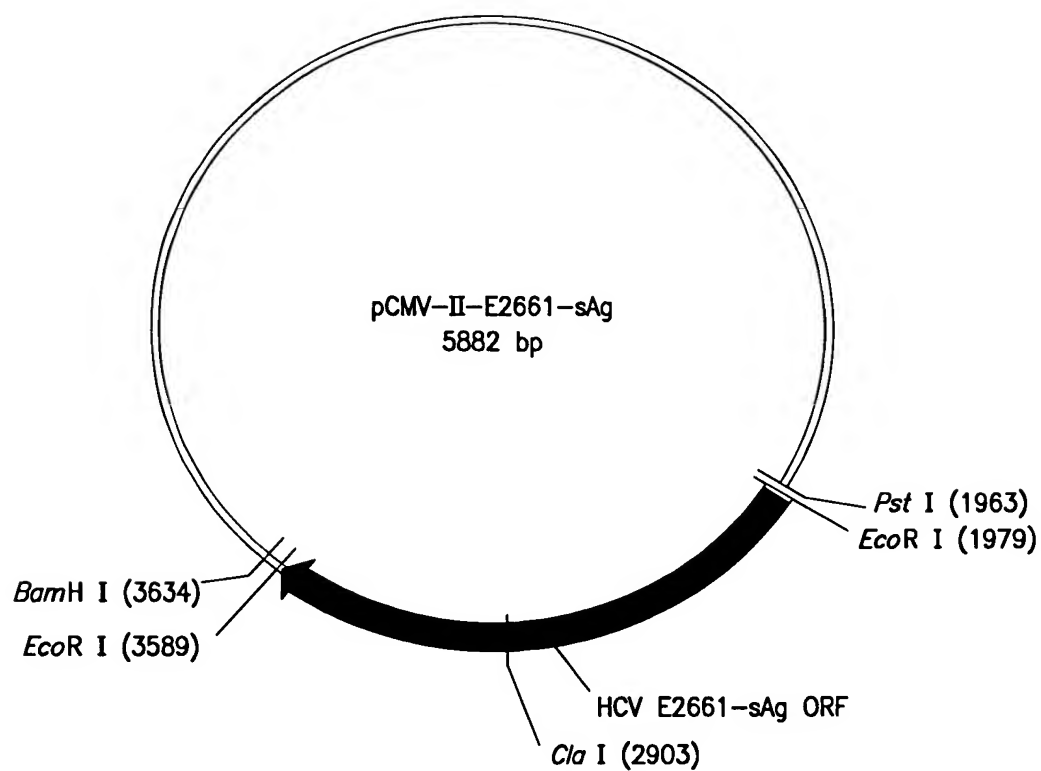


FIG. 4A

PCMV-II - E2661-sAg

SEQ ID NO: 6
→ 1 TC GCGCGGTTT CGTGTATGAC GGTGAAACC TCTGACACAT GCAGCTCCCG GAGACGGTCA CAGCTTGTCT GTAAGCGGAT
AGCGCGCAAA GCCACTACTG CCACTTTTGG AGACTGTGTG CGTCGAGGCG CTCTGCCAGT GTCGAACAGA CATTGCGCTA

81 GCCGGGAGCA GACAAGCCCG TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA
CGGCCCTCGT CTGTTGCGGC AGTCCCGCGC AGTCGCCAC AACCGCCAC AGCCCCGACC GAATTGATAC GCCGTAGTCT

161 GCAGATTGTA CTGAGAGTGC ACCATATGAA GCTTTTTGCA AAAGCCTAGG CCTCCAAAAA AGCCTCCTCA CTACTTCTGG
CGTCTAACAT GACTCTCACG TGGTATACTT CGAAAAACGT TTTCGGATCC GGAGTTT TCGGAGGAGT GATGAAGACC

241 AATAGCTCAG AGGCGGAGGC GGCCTCGGCC TCTGCATAAA TAAAAAAAAT TAGTCAGCCA TGGGGCGGAG AATGGCGGGA
TTATCGAGTC TCCGGCTCCG CCGGAGCCCG AGACGTATTT ATTTTTTTTA ATCAGTCGGT ACCCGCGCTC TTACCCGCGCT

321 ACTGGGCGGG GAGGGAATTA TTGGCTATTG GCCATTGCAT ACGTTGTATC TATATCATAA TATGTACATT TATATTGGCT
TGACCCGCCC CTCCTTAAT AACCGATAAC CGGTAACGTA TGCAACATAG ATATAGTATT ATACATGTAA ATATAACCGA

401 CATGTCCAAT ATGACCGCCA TGTGACATT GATTATTGAC TAGTTATTAA TAGTAATCAA TTACGGGGTC ATTAGTTCAAT
GTACAGGTTA TACTGGCGGT ACAACTGTAA CTAATAACTG ATCAATAAAT ATCATTAGTT AATGCCCCAG TAATCAAGTA

481 AGCCCATATA TGGAGTCCG CGTTACATAA CTTACGGTAA ATGGCCCGCC TGGCTGACCG CCCAACGACC CCCGCCCATT
TCGGGTATAT ACCTCAAGC GCAATGTATT GAATGCCATT TACCGGGCGG ACCGACTGSC GGGTTGTGG GGGCGGGTAA

561 GACGTCAATA ATGACGTATG TTCCCATAGT AACGCCAATA GGGACTTTCC ATTGACGTCA ATGGGTGGAG TATTACGGT
CTGCAGTTAT TACTGCATAC AAGGGTATCA TTGCGGTTAT CCCTGAAAGG TAACTGCAGT TACCCACCTC ATAAATGCCA

641 AAACTGCCCC CTTGGCAGTA CATCAAGTGT ATCATATGCC AAGTCCGCCC CCTATTGACG TCAATGACGG TAAATGGCCC
TTTGACGGGT GAACCGTCAT GTAGTTCACA TAGTATACGG TTCAGGCGGG GGATAACTGC AGTTACTGCC ATTTACCGGG

721 GCCTGGCATT ATGCCCAGTA CATGACCTTA CGGGACTTTC CTACTTGGCA GTACATCTAC GTATTAGTCA TCGCTATTAC
CGGACCGTAA TACGGGTCAAT GTACTGGAAT GGCCTGAAAG GATGAACCGT CATGTAGATG CATAATCAGT AGCGATAATG

FIG. 4B

801 CATGGTGATG CGGTTTTTGGC AGTACACCAA TGGGCGTGGA TAGCGTTTGG ACTCACGGGG ATTTCCAAGT CTCCACCCCA
GTACCACTAC GCCAAAACCG TCATGTGTTT ACCCGCACCT ATCGCCAAAC TGAGTGCCCC TAAAGTTCA GAGGTGGGT

881 TTGACGTCAA TGGGAGTTTG TTTTGGCACC AAAATCAACG GGACTTTTCCA AAATGTCGTA ATAAACCCGC CCGTTGACG
AACTGCAGTT ACCCTCAAAC AAAACCGTGG TTTTAGTTGC CCTGAAAGGT TTTACAGCAT TATTGGGGCG GGGCAACTGC

961 CAAATGGGCG GTAGGCGTGT ACGGTGGGAG GTCTATATAA GCAGAGCTCG TTTAGTGAAC CGTCAGATCG CCTGGAGACG
GTTTACCCGC CATCCGCACA TGCCACCCCTC CAGATATAIT CGTCTCGAGC AAATCACTTG GCAGTCTAGC GGACCTCTGC

1041 CCATCCACGC TGTTTTGACC TCCATAGAAG ACACCGGGAC CGATCCAGCC TCCGCGGGCG GGAACGGTGC ATTGGAACGC
GGTAGGTGCG ACAAAACTGG AGGTATCTTC TGTGGCCCTG GCTAGGTGCG AGGCGCCGCG CCTTGCCACG TAACCTTGCG

1121 GGATTCCCG TGCCAAGAGT GACGTAAGTA CCGCCTATAG ACTCTATAGG CACACCCCTT TGGCTCTTAT GCATGCTATA
CCTAAGGGC ACGGTTCTCA CTGCAATTCAT GGCGGATATC TGAGATATCC GTGTGGGGA ACCGAGAATA CGTACGATAT

1201 CTGTTTTTGG CTGCGGCCT ATACACCCCC GCTCCTTAG CTATAGTGA TGGTATAGCT TAGCCTATAG GGTGGGTTA
GACAAAACC GAACCCCGGA TATGTGGGG CGAGGAATAC GATATCCACT ACCATATCGA ATCGGATATC CACACCAAT

1281 TTGACCATTA TTGACCACTC CCCTATTGGT GACGATACCT TCCATTACTA ATCCATAACA TGGCTCTTTG CCACAACATAT
AACTGGTAAT AACTGGTGAG GGGATAACCA CTGCTATGAA AGGTAATGAT TAGGTATTGT ACCGAGAAAC GGTGTTGATA

1361 CTCTATTGGC TATATGCCAA TACTCTGTCC TTCAGAGACT GACACGGA CTGTATTTT ACAGGATGGG GTCCATTTAT
GAGATAACCG ATATACGGTT ATGAGACAGG AAGTCTCTGA CTGTGCTGTA GACATAAAA TGTCTTACCC CAGGTAAATA

1441 TATTTACAAA TTCACATATA CAACAACGCC GTCCCCCGTG CCGCGAGTTT TTATTAAACA TAGCGTGGGA TCTCCGACAT
ATAAATGTTT AAGTGATATAT GTTGTGCGG CAGGGGGCAC GGGCGTCAAA AATAATTGT ATCGCACCT AGAGGTGTA

1521 CTCGGGTACG TGTTCGGAC ATGGGCTCTT CTCCGGTAGC GCGGAGCTT CCACATCGA GCCCTGGTCC CATCGTCCA
GAGCCCATGC ACAAGGCTG TACCCGAGAA GAGGCCATCG CCGCCTCGAA GGTGTAGGCT GGGGACCAGG GTAGGCAGGT

FIG. 4C

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1601 GCGGTCATG GTCGCTCGG AGCTCCTTGG TCCTAACAGT GGAGGCCAGA CTTAGGCACA GCACAATGCC CACCACCACC
CGCCGAGTAC CAGCGAGCCG TCGAGGAACG AGGATTGTCA CCTCGGTCT GAATCCGTGT CGTGTACCG GTGGTGGTGG

1681 AGTGTGCCG ACAAGGCCGT GCGGTAGGG TATGTGTCTG AAAATGAGCT CGGAGATTGG GCTCGCACCT GGACGCAGAT
TCACACGGCG TGTTCGGCA CGCCATCCC ATACACAGAC TTTTACTCGA GCCTCTAACC CGAGCGTGA CCTGCGTCTA

1761 GGAGACTTA AGGAGCGGC AGAAGAAGAT GCAGGCGCT GAGTTGTTGT ATTCTGATTA GAGTCAGAGG TAACTCCCGT
CCTTCTGAAT TCCGTCGCCG TCTTCTTCTA CGTCCGTCGA CTCAACAACA TAAGACTATT CGCAGTCTCC ATTGAGGGCA

1841 TCGGTGCTG TTAACGGTGG AGGCGAGTGT AGTCTGAGCA GTACTGTTG CTGCCGCGCG GCCCACCAGA CATAATAGCT
ACGCCACGAC AATTGCCACC TCCCGTCACA TCAGACTCGT CATGAGCAAC GACGGCGCGC GCGGTGGTCT GTATTATCGA

+3      SEQ ID NO:7 -----> M D A
      PstI                      EcoRI
      -----
1921 GACAGACTAA CAGACTGTTT CTTTCCATGG GTCTTTTCTG CAGTCACCGT CGTCGACGAA TTCAAGCAAT CATGGATGCA
CTGTCTGATT GTCTGACAAG GAAAGGTACC CAGAAAGAC GTCAGTGGCA GCAGCTGCTT AAGTTCTGTTA GTACCTACGT

+3 M K R G L C C V L L L L C G A V F V S P S A S E T H V T
2001 ATGAAGAGAG GGCTCTGCTG TGTGCTGCTG CTGTGTGGAG CAGTCTTCTG TTGCCCCAGC GCTAGCGAAA CCCACGTCAC
TACTTCTCTC CCGAGACGAC ACAGGACGAC GACACACCTC GTCAGAAGCA AAGCGGGTCTG CGATCGCTTT GGTGCGAGTG

+3 G G S A G H T V S G F V S L L A P G A K Q N V Q L I
2081 CGGGGAAGT GCGGCCACA CTGTGTCTGG ATTGTTAGC CTCCTCGCAC CAGGCGCCAA GCAGAACGTC CAGCTGATCA
GCCCCCTTCA CGGCCGGTGT GACACAGACC TAAACAATCG GAGGAGCGTG GTCCCGGGTT CGTCTTGCGAG GTCGACTAGT

+3 N T N G S W H L N S T A L N C N D S L N T G W L A G L
2161 ACACCAACGG CAGTTGGCAC CTCATAGCA CGGCCCTGAA CTGCAATGAT AGCCTCAACA CCGGTGGTTT GGCAGGCTT
TGTTGGTTGCC GTCAACCGTG GAGTTATCGT GCCGGGACTT GACGTTACTA TCGGAGTTGT GGCCGACCAA CCGTCCCGAA

+3 F Y H H K F N S S G C P E R L A S C R P L T D F D Q G
2241 TTCTATCACC ACAAGTTCAA CTCTTCAGGC TGTCTGAGA GGCTAGCCAG CTGCCGACCC CTTACCGATT TTGACCAGGG
AAGATAGTGG TGTCAAGTT GAGAAGTCCG ACAGGACTCT CCGATCGGTC GACGGCTGGG GAATGGCTAA AACTGGTCCC

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FIG. 4D

+3 W G P I S Y A N G S G P D Q R P Y C W H Y P P K P C
2321 CTGGGGCCT ATCAGTTATG CCAACGGAAG CGGCCCGGAC CAGGCCCCT ACTGCTGGCA CTACCCCCCA AAACCTTGCG
GACCCCGGA TAGTCAATAC GGTGCTTC GCCGGGCTG GTCGGGGT GATGGGGGT TTTGGAACGC

+3 G I V P A K S V C G P V Y C F T P S P V V V G T T D R
2401 GTATTGTCC CGCGAAGT GTGTGTGGTC CGGTATATTG CTTCACCTCC AGCCCCGTGG TGGTGGGAAC GACCGACAGG
CATAACACGG GCGCTTCTCA CACACACCAG GCCATATAAC GAAGTGAGG TCGGGGCACC ACCACCTTG CTGGCTGTCC

+3 S G A P T Y S W G E N D T D V F V L N N T R P P L G N
2481 TCGGGCGGC CCACCTACAG CTGGGTGAA AATGATACGG ACGTCTTCGT CCTTAACAAT ACCAGGCCAC CGCTGGGCAA
AGCCCGCGG GGTGGATGTC GACCCCACTT TTAATATGCC TGCAGAAGCA GGAATTGTTA TGGTCCGGTG GCGACCCGTT

+3 W F G C T W M N S T G F T K V C G A P P C V I G G A
2561 TTGGTTCGGT TGTACCTGGA TGAACCTAAC TGGATTCACC AAAGTGTGCG GAGCGCCTCC TTGTGTGATC GGAGGGGCGG
AACCAGCCA ACATGGACCT ACTTGAGTGG ACCTAAGTGG TTTCACACGC CTCGGGGAG AACACAGTAG CCTCCCCGCC

+3 G N N T L H C P T D C F R K H P D A T Y S R C G S G P
2641 GCAACACAC CTGCACTGC CCCACTGATT GCTTCCGCAA GCATCCGGAC GCACATACT CTCGGTGGG CTCCGGTCCC
CGTTGTTGTG GGACGTGACG GGTGACTAA CGAAGCGGT CGTAGGCTG CGGTGTATGA GAGCCACGCC GAGGCCAGGG

+3 W I T P R C L V D Y P Y R L W H Y P C T I N Y T I F K
2721 TGGATCACAC CCAGTGCCT GGTGACTAC CCGTATAGG TTTGGCATT TCTTGTACC ATCAACTACA CCATATTTAA
ACCTAGTGTG GGTCCACGGA CCAGCTGATG GGCATATCCG AAACCGTAAT AGGAACATGG TAGTTGATGT GGTATAAATT

+3 I R M Y V G G V E H R L E A A C N W T R G E R C D L
2801 AATCAGGATG TACGTGGGAG GGTTCGAACA CAGGTGGAA GCTGCCTGCA ACTGGACGCG GGGCGAACGT TGGATCTGG
TTAGTCCCTAC ATGCACCTC CCCAGTTGT GTCCGACCTT CGACGGACGT TGACCTGGC CCGCTTGCA ACGTAGACC

+3 E D R D R S E I D M E N I T S G F L G P L L V L Q A G
ClaI

2881 AAGATAGGA CAGTCCGAG ATCGATATGG AGAATATCAG ATCAGGATTC CTAGGACCC TGCTCGTGT ACAGGGGGG
TTCTATCCCT GTCCAGGTC TAGCTATACC TCTTGTAGTG TAGTCTAAG GATCCTGGG ACAGACACAA TGTCCGCCCC

FIG. 4E

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+3 F F L L T R I L T I P Q S L D S W W T S L N F L G G S
2961 TTTTCTTGT TGACAAAGAT CCTCACAATA CCGCAGAGTC TAGACTCGTG GTGGACTTCT CTCAATTTTC TAGGGGATC
    AAAAGAACA ACTGTTCTTA GGAGTGTTAT GCGCTCTCAG ATCTGAGCAC CACCTGAAGA GAGTTAAAG ATCCCCCTAG

+3 P V C L G Q N S Q S P T S N H S P T S C P P I C P G
3041 TCCCGTGTGT CTGGGCCAAA ATTGCAGTC CCCAACCTCC AATCACTCAC CAACCTCCTG TCCTCCAATT TGTCCTGGTT
    AGGCACACA GAACCGGTTT TAAGCGTCAG GGGTTGGAGG TTAGTGAGTG GTTGGAGGAC AGGAGGTAA ACAGGACCAA

+3 Y R W M C L R R F I I F L F I L L L C L I F L L V L L
3121 ATCGCTGGAT GTGTCTGGG CGTTTTATCA TATTCCTCTT CATCCTGCTG CTATGCCTCA TCTTCTTATT GGTTCCTCTG
    TAGGCACCTA CACAGACGCC GCAAATAGT ATAAGGAGAA GTAGGACGAC GATACGGAGT AGAAGAATAA CCAAGAGAGAC

+3 D Y Q G M L P V C P L I P G S T T T S T G P C K T C T
3201 GATTATCAAG GTATGTTGCC CGTTGTCTCT TAAATTCAG GATCAACAAC AACCAGTACG GGACCATGCA AAACCTGCAC
    CTAATAGTTC CATAACAACG GCAAACAGGA GATTAAGGTC CTAGTTGTTG TTGGTCATGC CCTGGTACGT TTTGGACGTC

+3 T P A Q G N S M F P S C C C T K P T D G N C T C I P
3281 GACTCCTGCT CAAGGCACT CTATGTTTCC CTCATGTTGC TGTACAAAAC CTACGGATGG AAATTGCACC TGTATTCCCA
    CTGAGGACGA GTTCCGTTGA GATACAAAG GAGTACAACG ACATGTTTGG GATGCCTACC TTTAACCTGG ACATAAGGGT

+3 I P S S W A F A K Y L W E W A S V R F S W L S L L V P
3361 TCCCATCGTC CTGGGCTTTC GCAAATACC TATGGGAGTG GGCCTCAGTC CGTTTCTCTT GGCTCAGTTT ACTAGTGCCA
    AGGTTAGCAG GACCCGAAAG CGTTTATGG ATACCTCAG CCGGAGTCAG GCAAAGAGAA CCGAGTCAAA TGATCACGGT

+3 F V Q W F V G L S P T V W L S A I W M M W Y W G P S L
3441 TTTGTTCACT GGTTCGTAGG GCTTTCCTCC ACTGTTTGGC TTTCAGCTAT ATGGATGATG TGGTATTGGG GGCCAAGTCT
    AAACAAGTCA CCAAGCATCC CGAAAGGGGG TGACAAACCG AAAGTCGATA TACCTACTAC ACCATAACCC CCGGTTTCAGA

+3 Y S I V S P F I P L L P I F F C L W V Y I *
    EcorI
    -----
3521 GTACAGCATC GTGAGTCCCT TTATACCGCT GTTACCAATT TTCTTTTGTG TCTGGGTATA CATTTAAGAA TTCAGACTCG
    CATGTCGTAG CACTCAGGGA AATATGGCGA CAATGGTTAA AAGAAAACAG AGACCCCATAT GTAAATTCTT AAGTCTGAGC

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FIG. 4F

BamHI

3601 AGCAAGTCTA GAAAGGCGG CCAAGATATC AAGGATCCAC TACGCGTTAG AGCTCGTGA TCAGCCTCGA CTGTGCCTTC
TCGTTTCAGAT CTTTCCGCGC GGTTCCTATAG TTCCTAGTG ATCGCAATC TCAGCGACT AGTCGAGCT GACACGGAAG
3681 TAGTTGCCAG CCATCTGTTG TTTGCCCTC CCCCGTGCCT TCCTTGACCC TGAAGGTGC CACTCCCACT GTCCTTTCCT
ATCAACGGTC GGTAGACAAC AAACGGGAG GGGGACGGA AGGAACGGG ACCTTCCACG GTGAGGGTGA CAGGAAGGA
3761 AATAAAATGA GGAATTTGCA TCGCATTTGTC TGAGTAGGTG TCATTCTATT CTGGGGGTG GGTGGGGCA GGACAGCAAG
TTATTTTACT CCTTTAACGT AGCGTAACAG ACTCATCCAC AGTAAGATAA GACCCCCAC CCCACCCCGT CCTGTCTTC
3841 GGGGAGGATT GGAAGACAA TAGCAGGCAT GCTGGGAGC TCTTCCGCTT CCTCGCTCAC TGACTCGTG CGTCTGGTCG
CCCCCTCCTAA CCTTCTGTT ATCGTCCGTA CGACCCCTCG AGAAGCGAA GGAGCGAGTG ACTGAGCGAC GCGAGCCAGC
3921 TTCGGCTCGG GCGAGCGGTA TCAGTCACT CAAAGCGGT AATACGGTTA TCCACAGAAT CAGGGGATAA CGCAGGAAAG
AAGCCGACGC CGCTCGCCAT AGTCGAGTGA GTTTCGCCA TTATGCCAAT AGGTGCTTA GTCCCCATT GCGTCTCTTC
4001 AACATGTGAG CAAAAGGCA GCAAAAGCC AGGAACCGTA AAAAGGCCG GTTGTGGCG TTTTTCATA GGCTCCGCCC
TTGTACACTC GTTTTCCGGT CGTTTCCGG TCCTTGGCAT TTTTCCGGC CAACGACCG AAAAAGGTAT CCGAGGCGGG
4081 CCCTGACGAG CATCACAAA ATCGACGCTC AAGTCAGAGG TGGCGAAACC CGACAGGACT ATAAAGATAC CAGGCGTTTC
GGGACTGCTC GTAGTGTTTT TAGCTGGAG TTCACTCTCC ACCGCTTGG GCTGTCTGA TATTCTATG GTCCGCAAAG
4161 CCCCTGGAAG CTCCCTCGTG CGCTCTCCTG TTCCGACCCT GCCGTTACC GGATACCTGT CCGCCTTTCT CCCTTCGGGA
GGGACCTTC GAGGGAGCAC GCGAGAGGAC AAGGCTGGGA CCGCGAATGG CCTATGGACA GCGCGAAAGA GGAAGCCCT
4241 AGCGTGGCG TTTCTCAATG CTCACGCTGT AGGTATCTCA GTTCGGTGA GTTCGTTGC TCCAAGCTGG GCTGTGTGCA
TCGCACCCG AAAGAGTTAC GAGTGGACA TCCATAGAT CAAGCCACAT CCAGCAAGCG AGGTCGACC CGACACAGT
4321 CGAACCCCCC GTTCAGCCG ACCGCTGCGC CTTATCCGGT AACTATCGTC TTGAGTCCAA CCGGTAAGA CAGACTTAT
GCTTGGGGG CAAGTCGGG TGGCGACGG GAATAGGCCA TTGATAGCAG AACTCAGGT GGGCCATTCT GTGCTGAATA
4401 CGCCACTGGC AGCAGCCACT GGTAAACAGGA TTAGCAGAGC GAGGTATGTA GCGCGTGCTA CAGAGTTCTT GAAGTGTGG
GCGGTGACCG TCGTCGGTGA CCATTGTCTT AATCGTCTCG CTCATACAT CCGCCACGAT GTCTCAAGAA CTTACACCAC

FIG. 4G

4481 CCTAACTACG GCTACACTAG AAGGACAGTA TTTTGGTATCT GCGCTCTGCT GAAGCCAGTT ACCTTCGGAA AAAGAGTTGG
GGATTGATGC CGATGTGATC TTCTCTGTCAT AAACCATAGA CGCGAGACGA CTTCGGTCAA TGGGAAGCCTT TTCTCAACC

4561 TAGCTCTTGA TCCGGCAAAAC AAACACCCGC TGGTACGCGT GGTTTTTTTG TTTGCAAGCA GCAGATTACG CGCAGAAAAA
ATCGAGAACT AGGCCGTTTG TTTGGTGGCG ACCATCGCCA CCAAAAAAAC AAACGTTTCGT CGTCTAATGC GCGTCTTTTT

4641 AAGGATCTCA AGAAGATCCT TTGATCTTTT CTACGGGTC TGACGCTCAG TGGAAACGAAA ACTCACGTTA AGGGATTTTG
TTCTTAGAGT TCCTTAGGA AACTAGAAAA GATGCCCCAG ACTCGAGTC ACCTTGCTTT TGAGTGCAAT TCCCTAAAAAC

4721 GTCATGAGAT TATCAAAAAG GATCTTCACC TAGATCTTTT TAAATTAATAA ATGAAGTTTT AAATCAATCT AAAGTATATA
CAGTACTCTA ATAGTTTTTC CTAGAACTGG ATCTAGGAAA ATTTAATTTT TACTTCAAAA TTAGTTAGA TTTCATATAT

4801 TGAGTAAACT TGGTCTGACA GTTACCAATG CTTAATCAGT GAGGCACCTA TCTCAGCGAT CTGTCTATTT CGTTCATCCA
ACTCATTTGA ACCAGACTGT CAATGGTTAC GAATTAGTCA CTCGGTGGAT AGAGTCGCTA GACAGATAAA GCAAGTAGGT

4881 TAGTTGCCTG ACTCCCGTC GTGTAGATAA CTACGATACG GGAGGGCTTA CCATCTGGCC CCAGTGCTGC AATGATACCG
ATCAACGAC TGAGGGGAC CACATCTATT GATGCTATGC CCTCCCGAAT GGTACACGCG GGTACACGACG TTAATATGGC

4961 CGAGACCCAC GCTACCCGC TCCAGATTTA TCAGCAATAA ACCAGCCAGC CGGAAGGGCC GAGCGCAGAA GTGGTCCTGC
GCTCTGGGTG CGAGTGGCCG AGGTCTAAAT AGTCGTTATT TGSTCGGTG GCCTTCCCG CTGCGGTCCT CACCAGGACG

5041 AACTTTATCC GCCTCCATCC AGTCTATTAA TTGTTGCCGG GAAGCTAGAG TAAGTAGTTC GCCAGTTAAT AGTTTGCGCA
TTGAAATAGG CGGAGGTAGG TCAGATAAAT AACAAACGGCC CTTCGATCTC ATTCATCAAG CGGTCAATTA TCAAAACGCGT

5121 ACGTTGTTGC CATTGCTACA GGCATCGTGG TGTCACGCTC GTCGTTTGGT ATGGCTTCAT TCAGCTCCGG TTCCCAACGA
TGCAACACAG GTAACGATGT CCGTAGCACC ACAGTGGAG CAGCAACCA TACCGAAGTA AGTCGAGGCC AAGGTTGCT

5201 TCAAGGCGAG TTACATGATC CCCCATGTTG TGCAAAAAAG CGGTTAGCTC CTTCGGTCCCT CCGATCGTTG TCAGAAGTAA
AGTTCCGCTC AATGTACTAG GGGGTACAAC ACGTTTTTTC GCCAATCGAG GAAAGCCAGGA GGCTAGCAAC AGTCTTCAT

5281 GTTGGCCGCA GTGTTATCAC TCATGTTTAT GGCAGCACTG CATTAATCTC TTACTGTCTAT GCCATCCGTA AGATGCTTTT
CAACCGCGGT CACAATAGTG AGTACCAATA CCGTCGTGAC GTATTAGAG AATGACAGTA CCGTAGGCAT TCTACGAAAA

FIG. 4H

5361 CTGTGACTGG TGAGTACTCA ACCAAGTCAT TCTGAGAATA GTGTATGCGG CGACCGAGTT GCTCTTGCCC GCGTCAATA
GACACTGACC ACTCATGAGT TGGTTCAGTA AGACTCTTAT CACATACGCC GCTGGCTCAA CGAGAACGGG CCGCAGTTAT

5441 CCGGATAATA CCGCGCCACA TAGCAGAACT TTAAAAGTGC TCATCATGGG AAAACGTTCT TCGGGGCGAA AACTCTCAAG
GCCCTATTAT GGCGCGGTGT ATCGTCTTGA AATTTTCACG AGTAGTAACC TTTTGCAAGA AGCCCCGCTT TTGAGAGTTC

5521 GATCTTACCG CTGTTGAGAT CCAGTTCGAT GTAAACCCACT CGTGCACCCA ACTGATCTTC AGCATCTTTT ACTTTCACCA
CTAGAATGGC GACAACTCTA GGTCAGCTA CATTGGGTGA GCACGTGGGT TGA CTAGAAG TCGTAGAAAA TGAAAGTGGT

5601 GCGTTTCTGG GTGAGCAAAA ACAGGAAGGC AAAATGCCGC AAAAAAGGGA ATAAGGGCGA CACGGAAATG TTGAATACTC
CGCAAAGACC CACTCGTTT TGTCTTCCG TTTTACGGCG TTTTTCCT TATTCCTTAC GTGCTTTTAC AACTTATGAG

5681 ATACTCTTCC TTTTTCATA TTATTGAAGC ATTATCAGG GTTATTGTCT CATGAGCGGA TACATATTTG AATGTATTTA
TATGAGAAGG AAAAAGTTAT AATAACTTCG TAAATAGTCC CAATAACAGA GTA CTGCTTAT ATGTATAAAC TTACATAAAT

5761 GAAAAATAA CAAATAGGG TTCCGCGCAC ATTTCCCGA AAAGTGCCAC CTGACGTCTA AGAAACCAT ATTATCATGA
CTTTTATT TTATTATCCC AAGGCGCGTG TAAAGGGGCT TTTACCGGTG GACTGCAGAT TCTTTGGTAA TAATAGTACT

5841 CATTAACTTA TAAAAATAGG CGTATCACGA GGCCCTTTTG TC
GTAATTGGAT ATTTTATCC GCATAGTGCT CCGGAAAGC AG

FIG. 4I

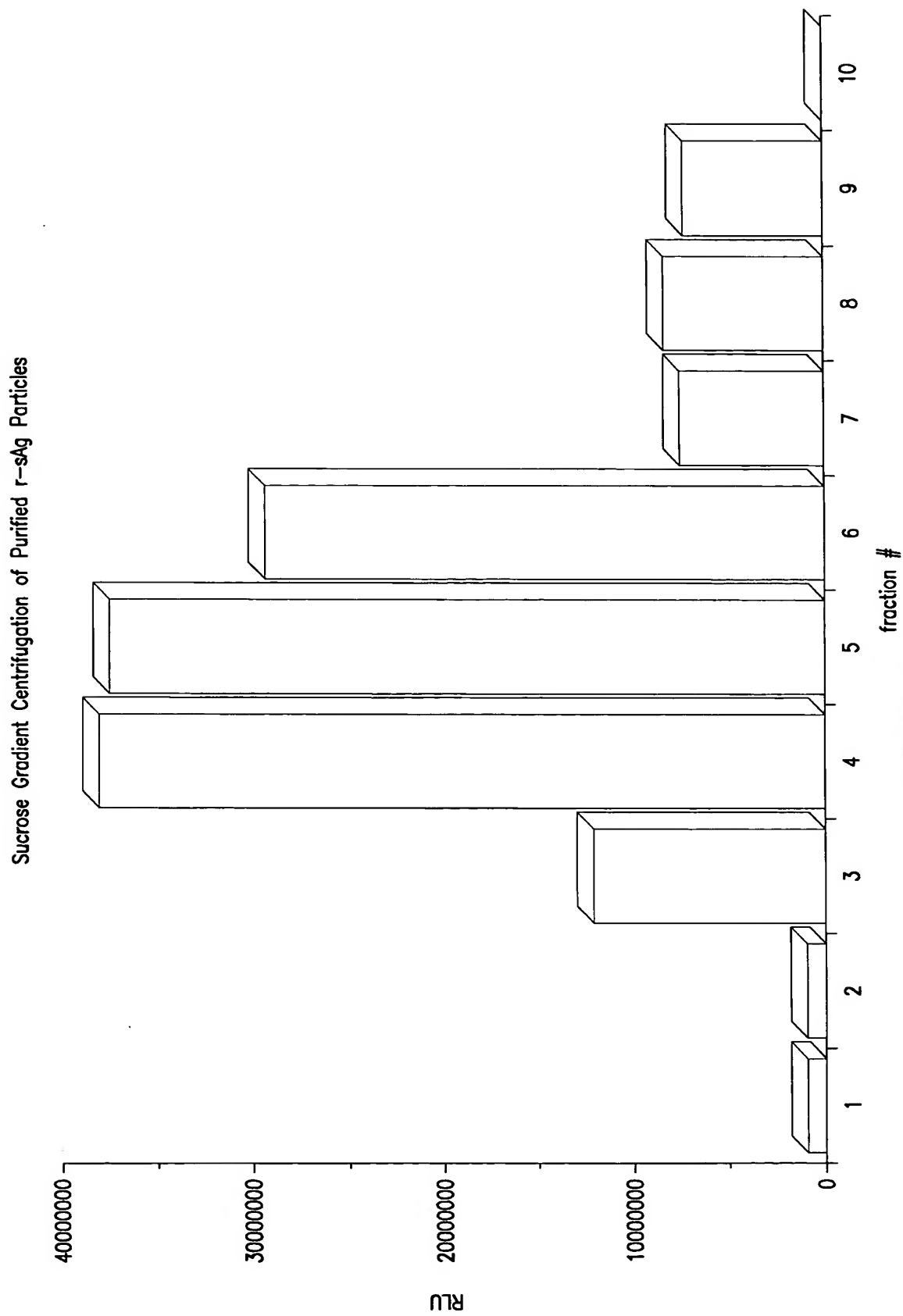


FIG. 5

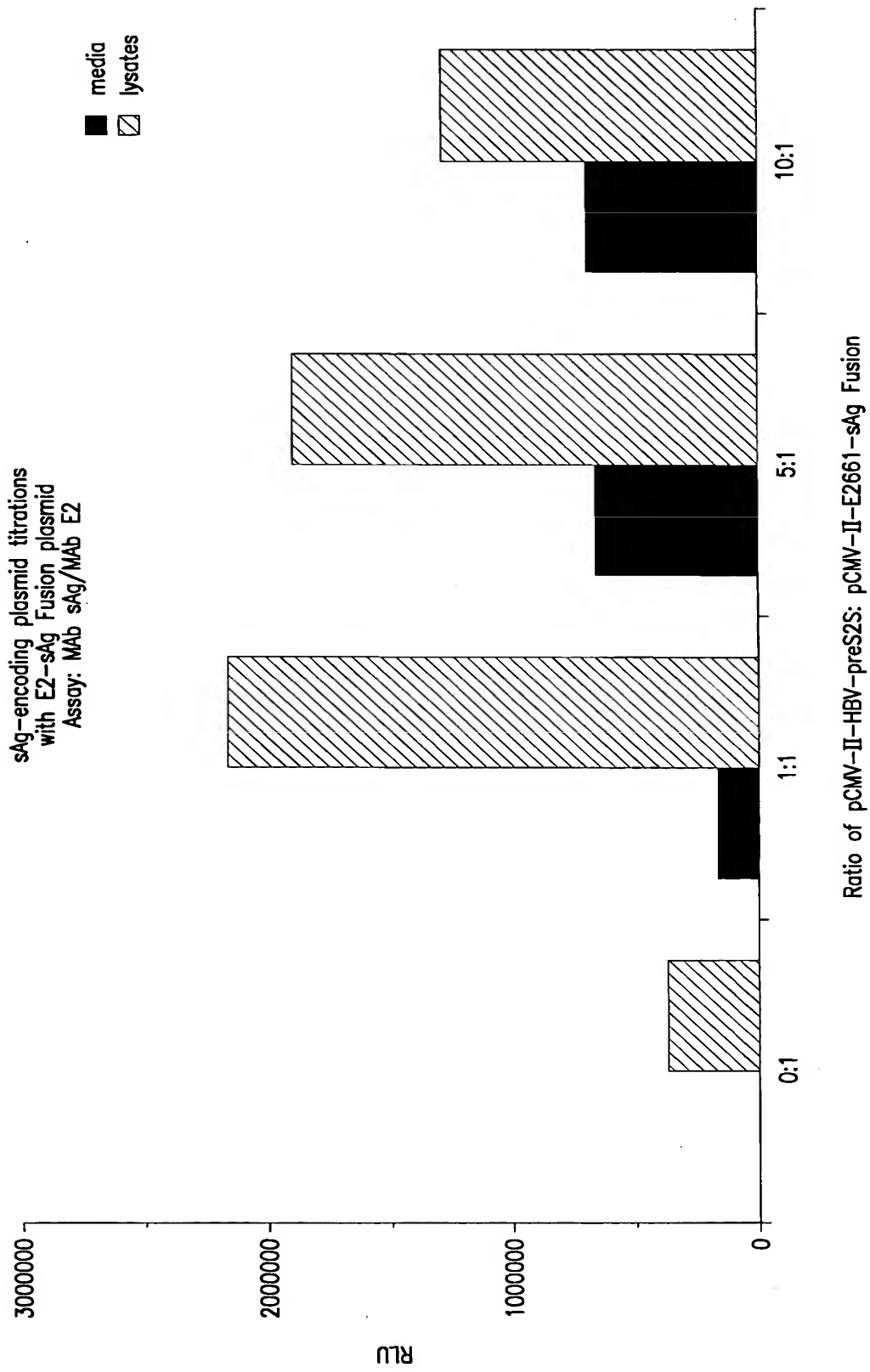


FIG. 6A

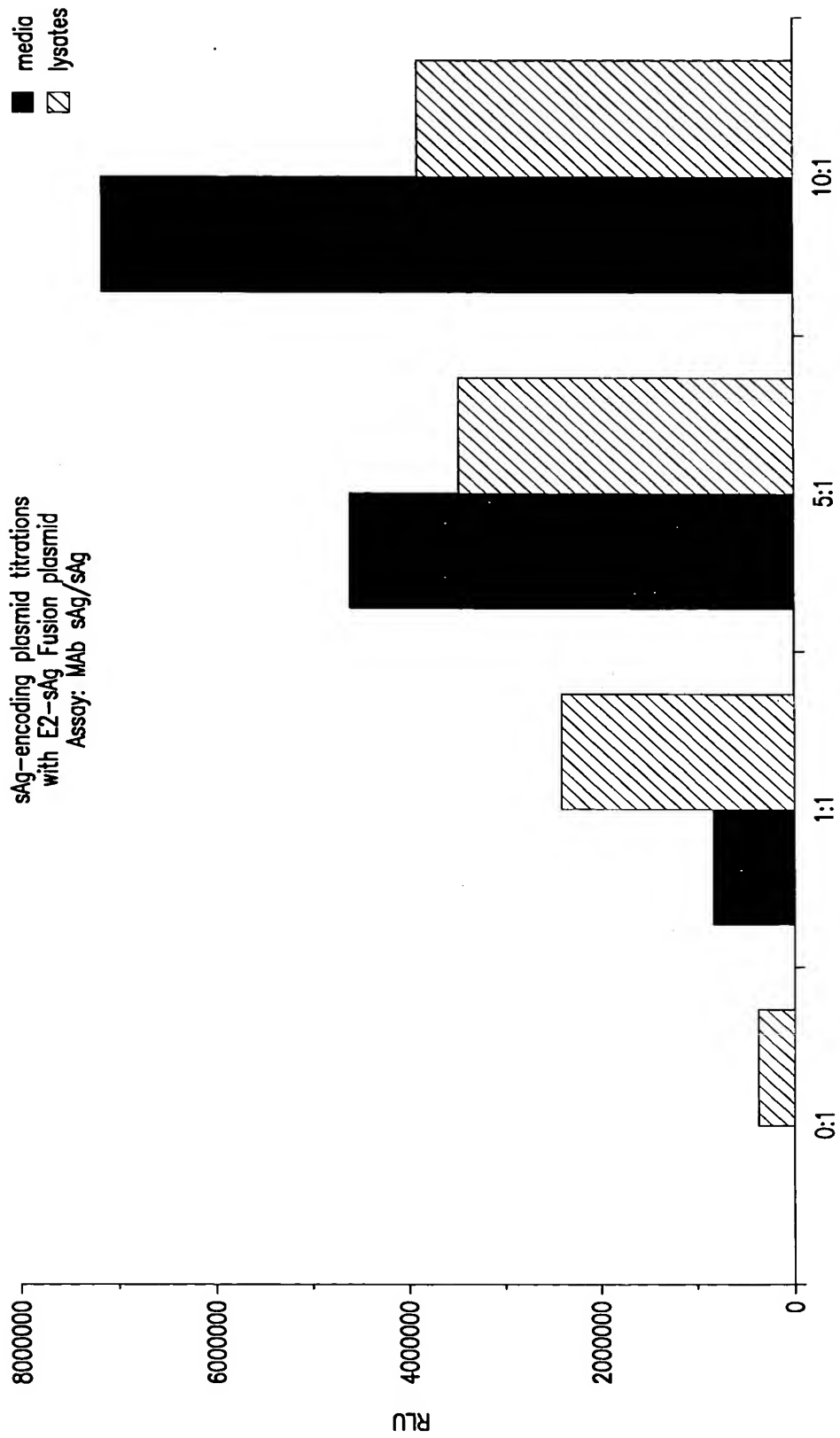


FIG. 6B

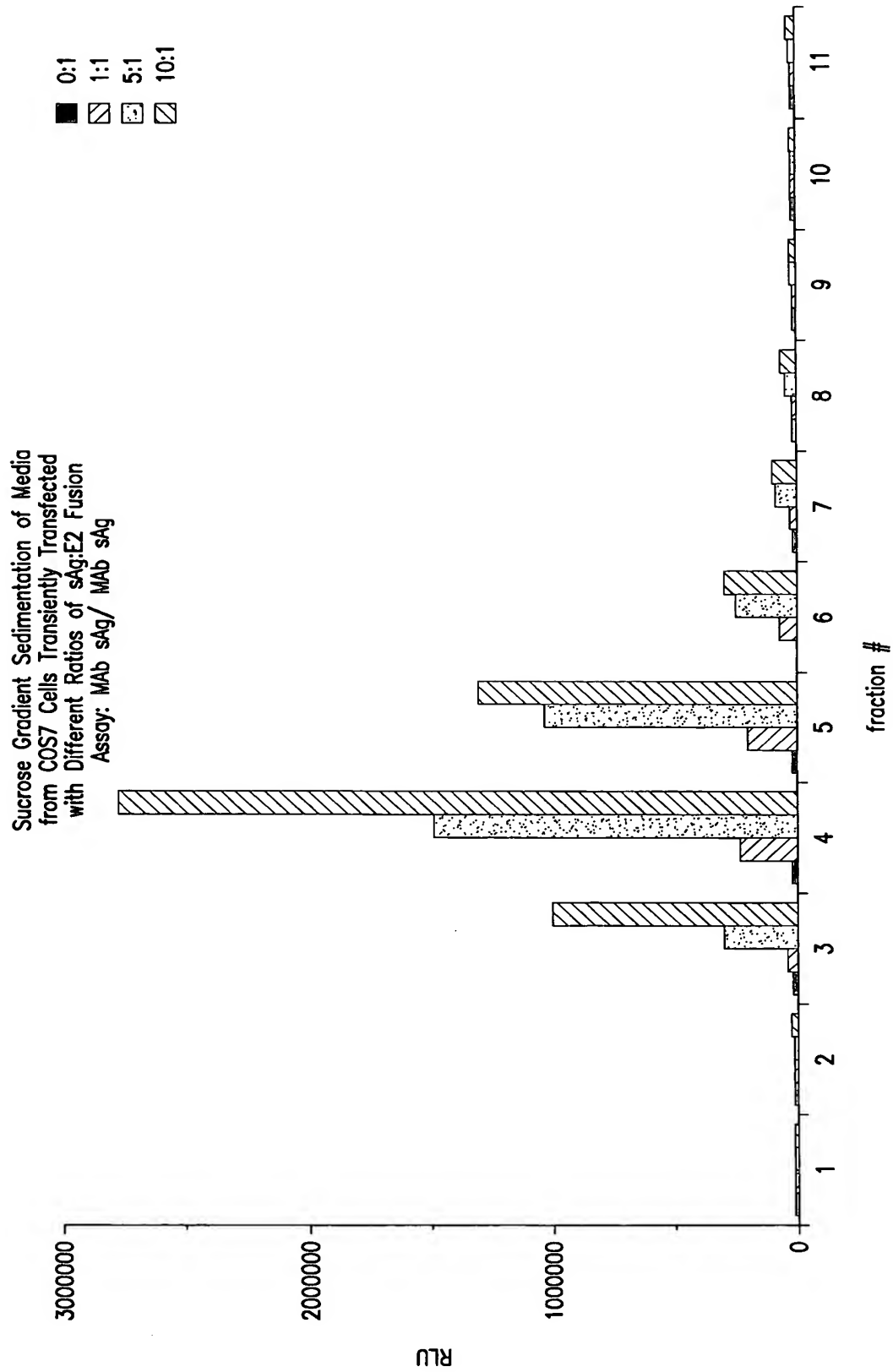


FIG. 7A

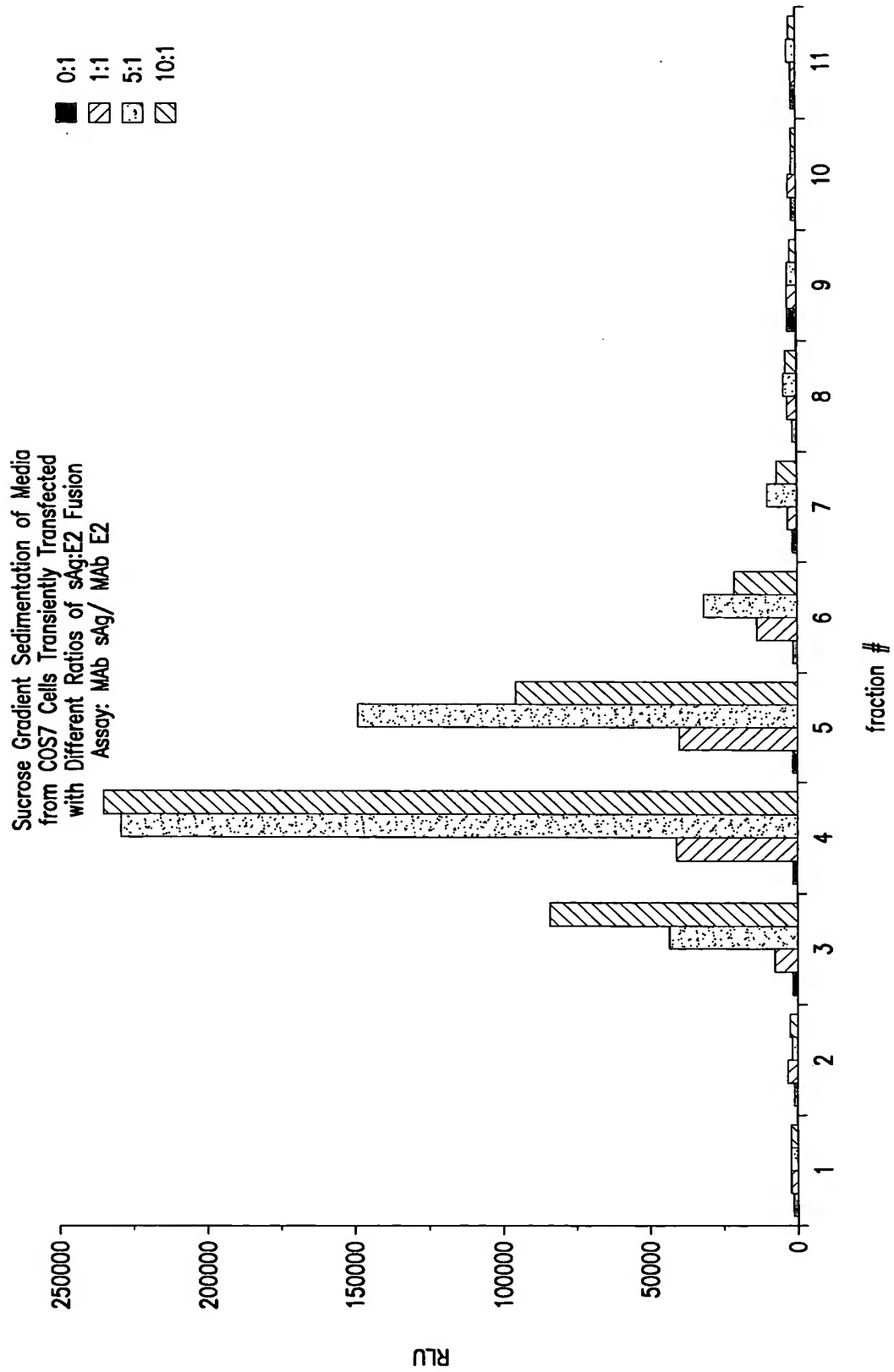


FIG. 7B

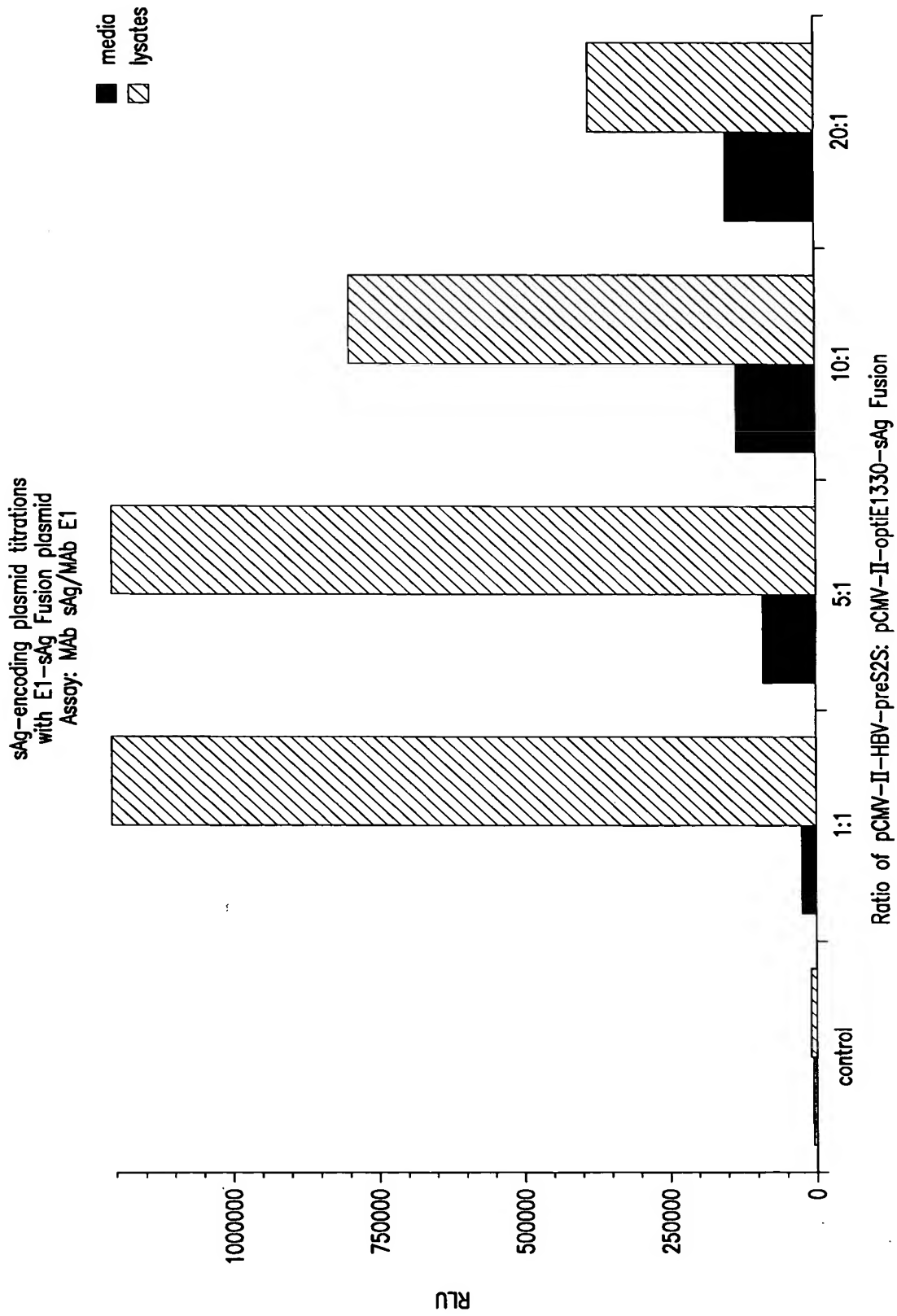


FIG. 8A

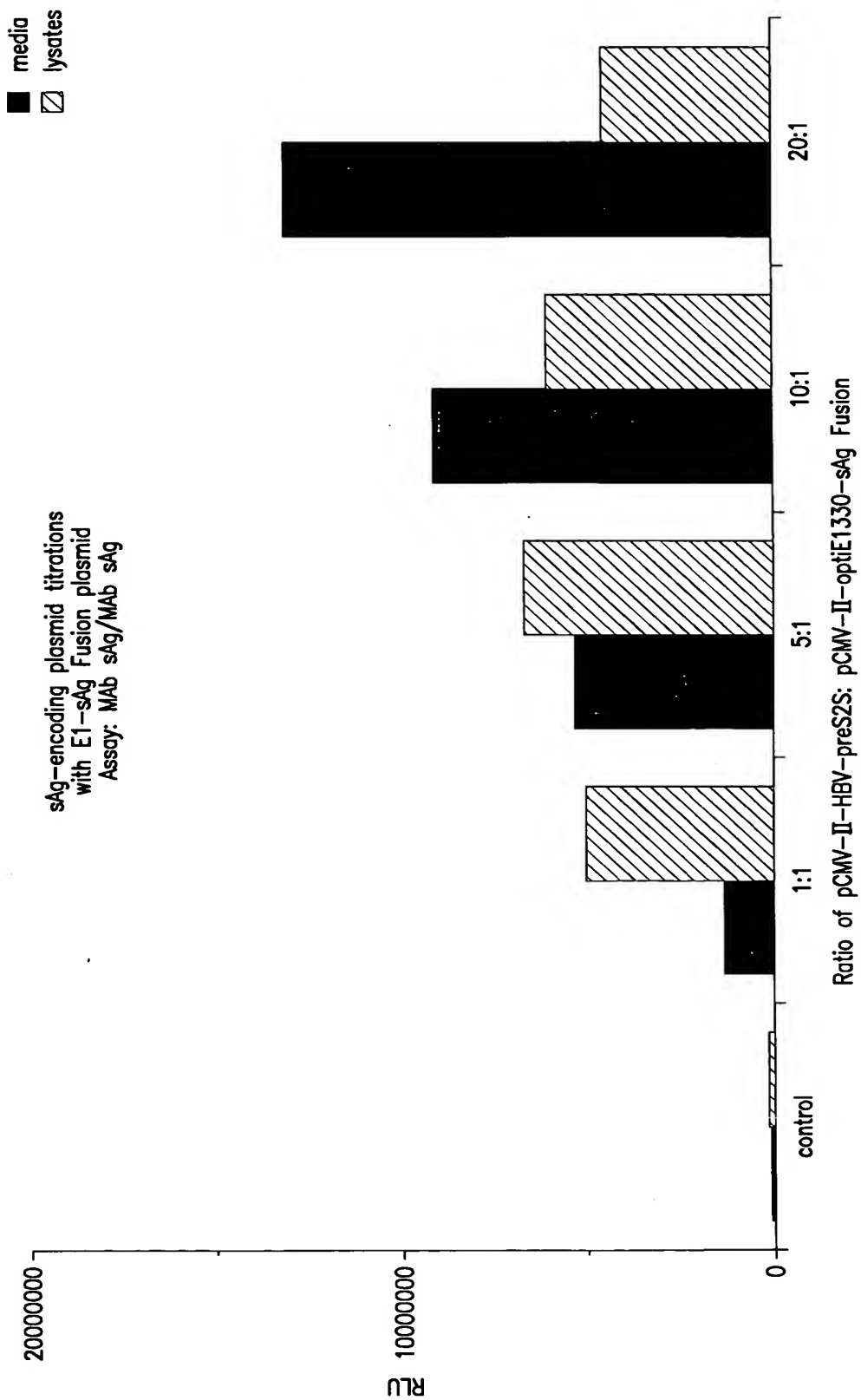


FIG. 8B

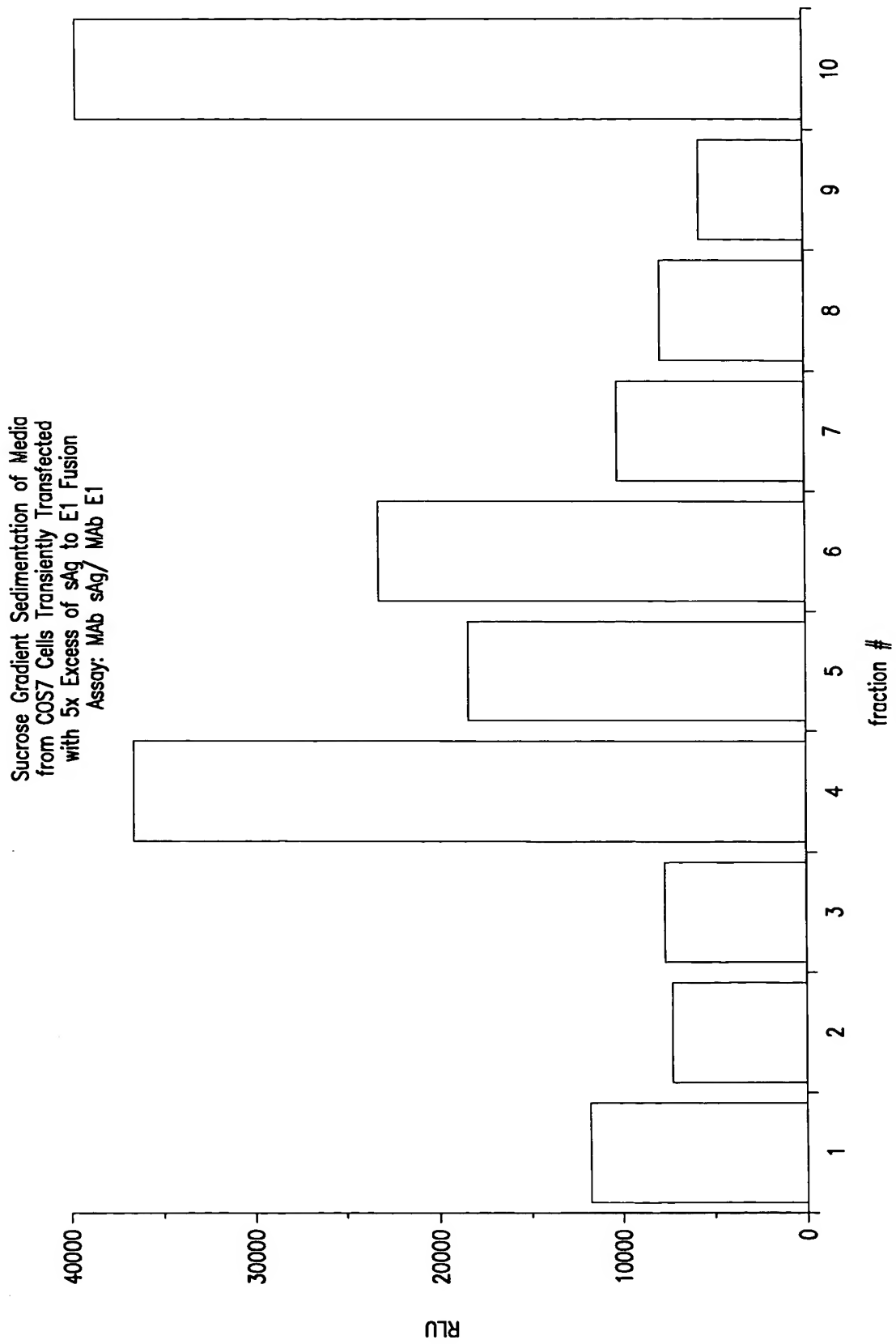


FIG. 9A

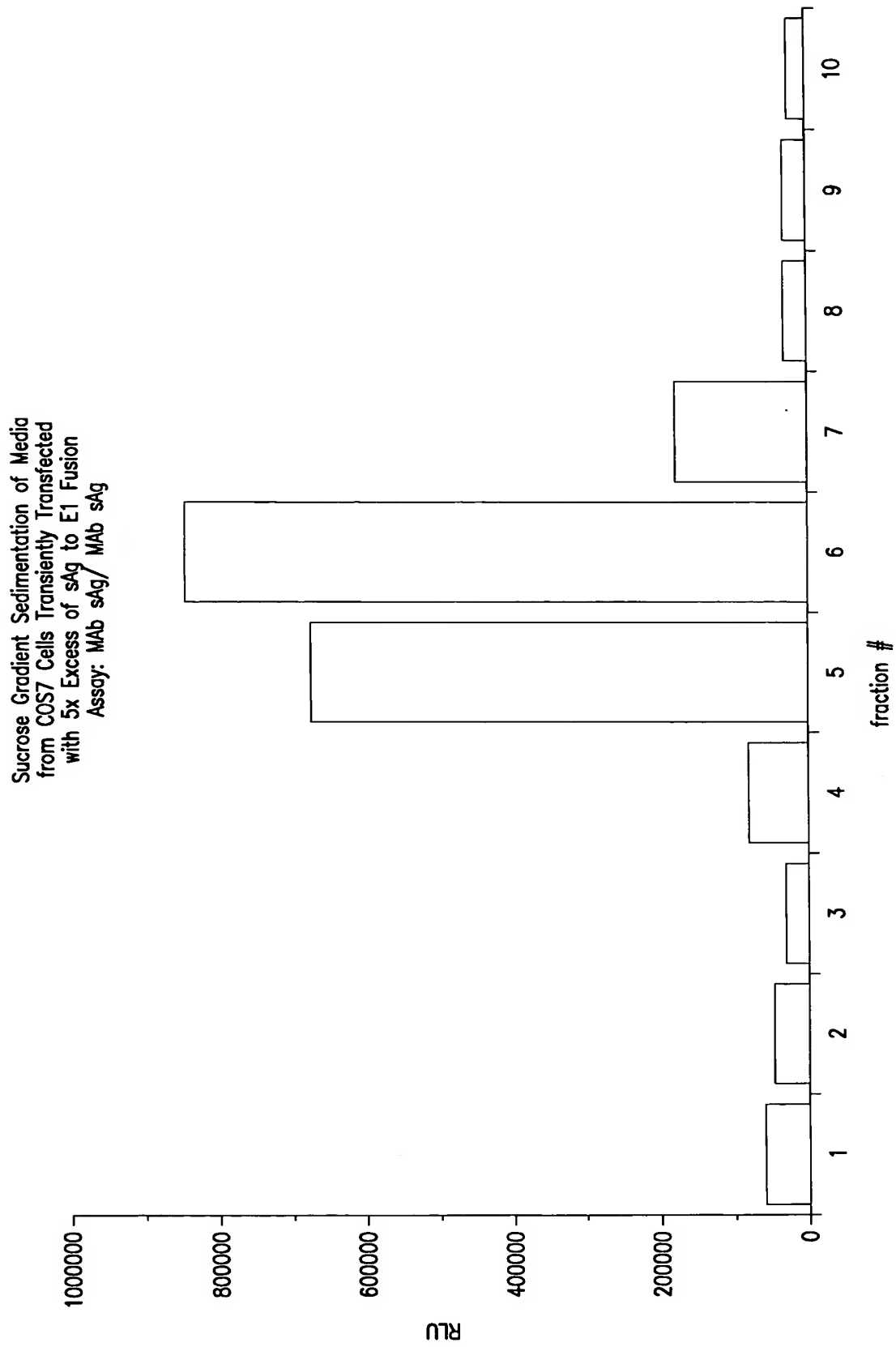


FIG. 9B

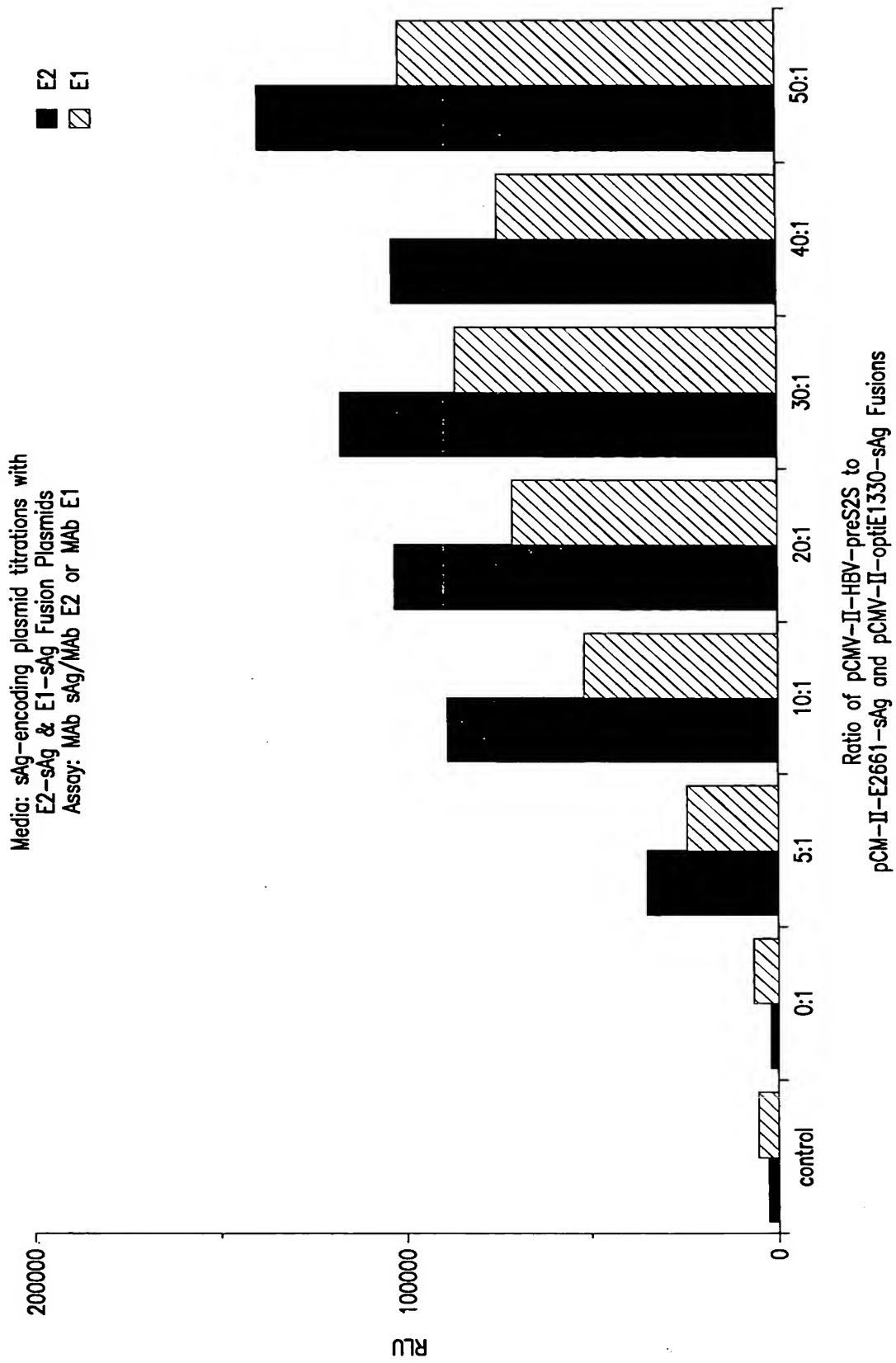


FIG. 10A

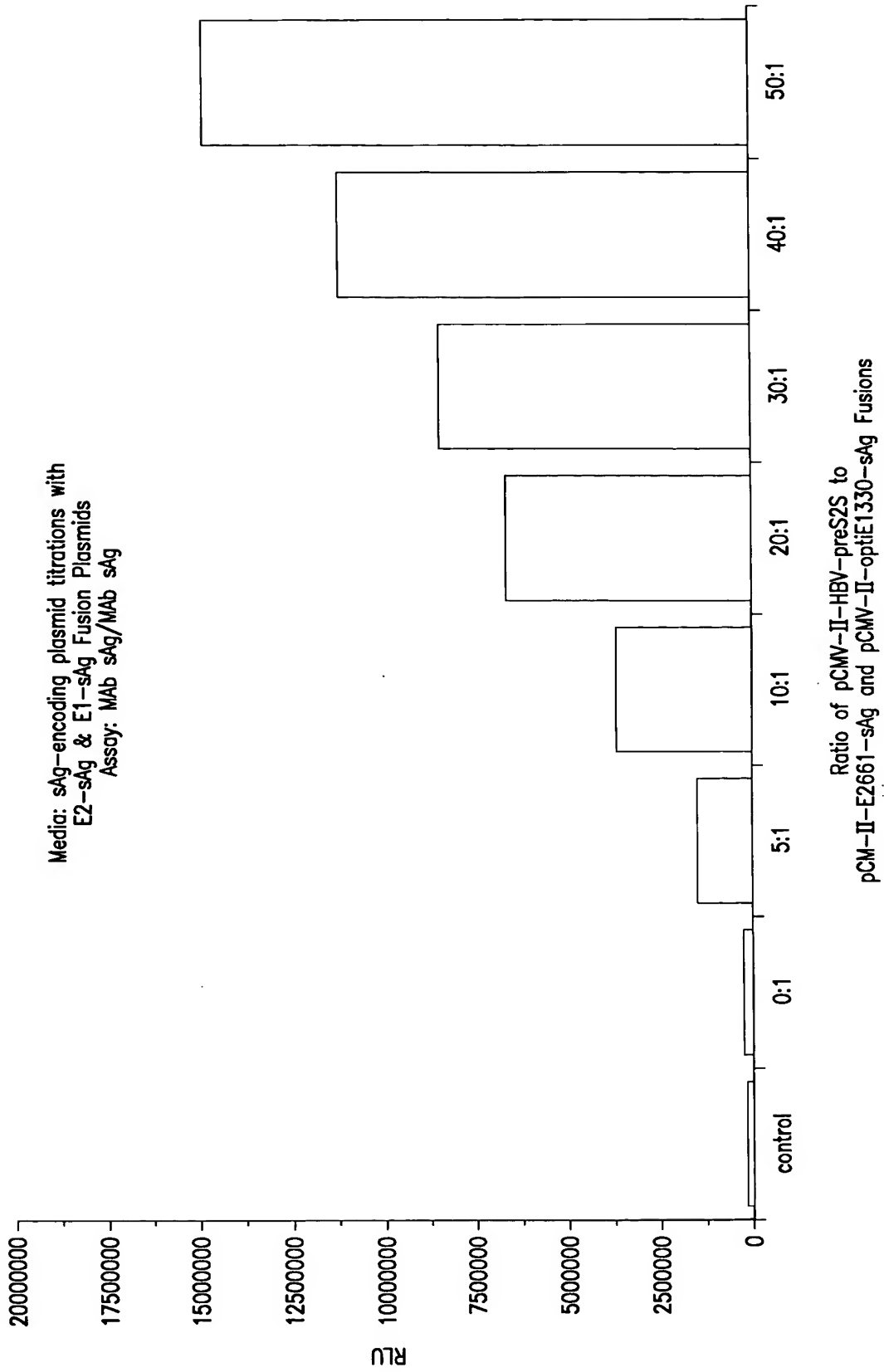


FIG. 10B